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ABSTRACT

This statement deals with the possibilities, the planning, and the policies that will bring higher education and its participants in Colorado through the 70's and into 1980. The number of college-age students has increased rapidly in Colorado during the 1960's and the incline is expected to be even greater in the 70's. This Commission report is designed to: (1) assess the needs of institutions in the 1970's; (2) plan for accommodating students; (3) plan for growth within the programs of the institutions; (4) aid the development of higher education in metropolitan areas; (5) review coordination, planning, and governance of higher education in Colorado; and (6) estimate the costs of this expanding system. The Commission issues this report with acute awareness of limitations both in scope of the report and in the processes of involvement of interested parties in its development. (HS)

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PLANNING FOR
HIGHER EDUCATION IN

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PLANNING FOR THE '70s

HIGHER EDUCATION IN COLORADO

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Higher Education in Colora

Colorado Commission on Higher Education
719 State Services Building
Denver, Colorado 80203

Revised Report
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--Section 124-22-8, C

Duties of the Colorado Commission on Higher Education
with respect to comprehensive planning:

After consultation with the institutions and governing boards develop and recommend to the governor and the general assembly statewide plans for higher education, and maintain a comprehensive plan for public higher education in the state with due consideration of the needs of the state, the role of the individual public and private institutions in the state, and the ability of the state to support public higher education. Such plans shall include the establishment of priorities for initiation of major programs and new institutions; the determination of the roles of institutions and sectors of the higher education system, including institutional size for planning purposes; and the establishment of such relationships with private institutions of higher education as may strengthen the total higher education resource of the state.

--Section 124-22-8, Colorado Revised Statutes

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PREFACE

When in December 1969 the Colorado Commission on Higher Education released this statement in preliminary form, the course for higher education in the nation and in Colorado seemed clear, its status secure: higher education was the surest route to personal advancement and to social well-being and its continuing growth and prosperity appeared certain.

For higher education it has been a long twenty-two months since December 1969. Major changes have occurred in public affairs of nation and state and in public attitudes.

Some of these shifts have involved economic factors--continuing inflation within the economy at large, with increasing costs of government outstripping tax revenues and bringing about fiscal crises at local and state levels. Some of the shifts have occurred in public morale, broadly defined--a rising disillusionment with the course of affairs in Indo China; increasing awareness of the threat to continued growth in the quality of life caused by growth in the quantity of life; our apparent inability to solve, speedily, the problems of racial and social discrimination--such problems feeding a growing public impatience with government and education and other social institutions. With this condition providing a background of disillusionment and frustration, colleges and universities in the spring of 1970 erupted into a major testing place for contending viewpoints. Inevitably there were excesses of provocation and there were excesses of reaction. Change has been a natural result.

During the 1960's when enrollments in the public colleges were growing so fast, appropriation levels were growing even faster. Though fiscal crisis had begun to appear in a number of states, it had not yet arrived in Colorado. The competition between rising costs and revenues has been won, during the past eighteen months, by the cost element. Budgets have been greatly tightened and there is every reason to expect further tightening in the future. The impact of the economy in Colorado has been lighter than in most of the nation; its impact in the nation at large has changed almost overnight the condition of competition for highly trained personnel including faculty members, and the demand for college graduates. The young have shown their special concern for the nature and effectiveness of formal education, partly with their press for reform and more ominously with their high cop-out rate evidenced by aimless wandering, escape via the drug route, and the like. All of these circumstances in turn have brought to the fore questions that have not even been asked in America for several decades, such as: can we afford to provide opportunity for education beyond high school for all who desire it? Is it even desirable that we try to do so?

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By no means have all of the developments of the last year and a half threatened the well-being of educational institutions. Ever since December of 1969 there has been a markedly increased readiness on the part of educators to try new approaches to the enduring objectives, to relax the old rules of academic accounting in favor of assessing learning wherever and however acquired. There has been, according to testimony from most campuses, a genuine redirection of faculty attention to the central function of instruction and to faculty-student contacts that are especially prized by students. There has been a growing sensitivity on the part of many educators to the need to conserve resources in order to do well those things that are most essential. Considerations of cost and of managerial efficiencies are entering into academic planning.

In the task of expanding both educational relevance and productivity, many must be involved. Ultimately the entire educational enterprise depends upon wide public understanding and support. Such understanding, the Commission believes, can be built only within a framework of policy and planning for a total system of higher education that makes sense.

The Commission hopes that this report will help provide that framework. Much that is discussed or recommended here depends for its implementation upon others--all parties to the academic enterprise in the institutions and governing boards on the one hand, and those elected representatives of the people and public servants in the Legislature and Executive Branch of government. The Commission and others in Denver must provide incentives and inspiration to get on with the job; but only the constructive response of students and faculty and administrators on the campuses can get the job done.

* * *

When Planning for the 1970's was released in preliminary form in December 1969, the Commission planned to take into account the comments and suggestions it solicited at the time, and to issue a final report early in 1970. That plan proved to be both inappropriate and impractical. More time was needed by the many persons in and outside the formal education system whose consideration of and reaction to the report was important. The Commission soon concluded that it should delay any further reporting until at least the summer of 1970.

However even the initial discussion and proposals had considerable impact. The consideration given to limitation of enrollments in some institutions and to setting of ultimate size targets for planning purposes in all institutions was, in general, favorably

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received by institutions and governing boards as well as by the
Some of the institutions undertook promptly to revise earlier pla
with implications for other institutions and for the system as a w
draft report of needs in the areas of El Paso County and in Wes
sulted in further studies and discussions of needs and resources i
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The Commission issues the present report with acute awar
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Planning for the 1970's in order to have more comprehensive re
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PLANNING FOR THE 1970's:
HIGHER EDUCATION IN COLORADO

A SUMMARY

Cracks have begun to appear in the trend lines.

The message of growth, formerly absolute and assured, has now a modest questioning and hesitancy.

Some things have stopped growing and have actually entered into decline--for instance, both nationally and locally, the numbers of children aged 0 to 5 years.

About many things, there is increasing public speculation as to the wisdom of growth--for instance, population and urbanization along the Front Range of the Rockies.

Some things that have grown so long and so powerfully that their growth took on the aspect of adherence to internal law rather than response to stimulus, have come under counter-attack other than rhetorical--for instance, since August 15, 1971, national inflation.

Even in higher education, where great growth has been predicted and even greater growth has occurred, there are cracks in the trend line. As will be seen in succeeding pages, growth here is expected to continue, but at a slower rate than in the recent past; and, for the first time in several decades in Colorado, an earlier dollar figure for capital construction needs is revised downward within these pages.

A crack in the trend line is a signal, but only that. It does not assist the forecaster/planner in modifying his projections; it merely puts him on notice that he had better re-examine the assumptions he has long made. Were projecting an exact science, the crack would signal a long pause. Were projecting merely an interpretation of the crystal ball, the crack would be a signal to wipe the ball vigorously.

But projecting is neither science nor occultism. It is a necessary step in planning; and in higher education, the centrality of planning is to arrange for a match between need and resources. The planning must be done or there will be serious imbalance; and so the projecting need be done, despite the temptation to take shelter in the womb of silence.

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This statement deals with the possibilities, the planning and the policies that will bring higher education and its participants in Colorado through the 70's and into 1980.

Much of it will have a very familiar ring. And properly so: large and central issues do not drift away nor even change their essential shapes merely with the passage of years. The large and central issues with respect to higher education have been for some time, and are now, concerned with the definition of those to whom the higher education opportunity will be extended, and the means of extension.

But while these issues may remain the same, their setting has changed dramatically. For instance, an objective appraisal of public higher education early in the 60's would have shown it to be university-centered, academically and professionally oriented, and carried on in institutions more similar to each other than dissimilar, and all fishing the same pool of potential students. Now, in 1971, the institutions are quite dissimilar; the greatest growth has occurred in the non-university segments; and, as a result, occupationally-oriented education is catching up with the academic-professional type.

This is no accident. It is the result of policy, of planning, and of action taken toward those precise ends that have occurred.

This statement sets out guidelines to continue to reshape higher education during the 1970's so that by 1980 an objective description of the actuality will reflect that mix and that concentration now deemed necessary. Some of the guidelines are issued with as much assurance as mortals may have. Others are issued tentatively, subject to change and review. In several instances, the necessity for guidelines is noted but their limning not attempted. (An example is the means of delivery of education to other than traditional students through other than traditional means such as telecommunication.)

It attempts, among other things, to demonstrate the order of costs to be incurred by public higher education in 1980. The numbers of dollars cited are, of course, very large. But, apart from the intrinsic value of the service purchased, there are hopeful

signs even in this: such as the probability that the real cost to the student (which includes travel and domiciliary expenses and foregone wages as well as the more traditional tuition and fees) will decline--because of the decisions that were made in the later 60's, and the decisions urged to be made in the early 70's.

The Numbers
(Chapter 1. Assessing the Needs)

In the 1960's, the urgent need in higher education in Colorado was simple: more.

Both the demographic facts of life and the common attitudinal posture required more. In numbers, Coloradoans between the ages of 15 and 24 increased at a rate almost three times that of the general population in the decade 1960-70. In attitude, there was little argument with the proposition that more and more of this growing pool should participate in higher education, both for their own sake and for the well-being of state and nation.

For the 1970's, the need is more complex than simply more. The size of the "more" is in doubt for reasons that are attitudinal rather than demographic. Demographically, there will be an increase of some 100,000 persons in Colorado in the 15-25 age group in the decade 1970-80, and therefore a larger pool for higher education. (Less certainty applies to the 1980's, when those who are now 0-5 years old will be entering the 15-24 group; and, as has been noted, the 0-5 group is in actual decline.)

How many from this pool will actually participate in higher education is in some doubt. In 1970, an estimated 45.6 percent of high school graduates of the previous June entered public higher education in Colorado; and there is reason to think, as demonstrated in other states, that this might be a peak for this time. Further, the expressed attitudes of some young people to traditional higher education indicate something other than a burning desire to participate; and the end of the Vietnam war may remove one of the powerful stimuli toward participation. Even higher education can price itself out of some markets. Further, there already are alternative paths toward higher education (and even toward the degree) than physical attendance at an institution, and these alternatives can be expected to grow during this decade in number and in attractiveness. In a word, there is reason to reduce the ebullience with which, in years past, one predicted ever-growing participation from the college age pool.

There is a countervailing force in the growth in numbers of adults seeking higher education. It has been said often enough that technological advance is of such dimension that anyone entering the labor market must be prepared to re-educate himself for several jobs in his lifetime--said often enough that it has become a truism. The real test of a truism is whether it turns out to be true when circumstances permit it to become true. In Colorado, the test was applied with the great growth of community colleges during the 1960's; and it turned out that an astonishing one-third of all those entering these institutions in fall 1970 were over 25 years old. Thus it appears that the truism is true; and that there will be greater numbers of older students in the decade ahead.

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Balancing as well as possible through this field of uncertainty, two sets of projections are made for total participation in higher education in Colorado. Each is based on mathematical factors which represent judgments on participation rates.

From a total enrollment (public and private) of 116,678 in 1970 (72.5 percent of them residents):

* Projection A (the high projection) looks for a total enrollment of 199,325 in 1980. Of these, 80.1 percent are to be Colorado residents.

* Projection B (the low projection) looks for a total enrollment of 173,721 in 1980. Of these, 83.9 percent are to be Colorado residents.

If the experience of the past were to dictate the future, then both A and B would turn out to be too low. But the break in the trend lines referred to earlier holds out some promise that somewhere between A and B will lie the reality of 1980.

The considerations and the assumptions that went into production of the two estimates highlighted a number of policy questions.

Policy on Nonresident Students. Colorado is the nation's leading net importer of undergraduate students from other states. By policy, the proportion of nonresidents has decreased in recent years. While it will continue to do so, for the future the Commission rejects a doctrinaire position. It submits that the goal of state policy should be to admit nonresident students until the point is reached at which qualified Colorado students would be turned away; and to admit these nonresident students at tuition charges which recover the cost to the state. Applications of that policy to particular institutions and segments are given in the text.

Policy on Extension Programming. Though many colleges are engaged in this activity, numbers participating are small and the academic range of offerings severely limited. Further, extension has something less than first class status or repute. There are potential breakthroughs in the education of people away from the traditional campus, but as of now they are small scale or experimental. The Commission and the institutions agree on the need for leadership in this field; for the present, sound policy is to encourage expansion of off-campus programming while working out an integrated program.

Policy on Special Needs of the Deprived Community. Access to higher education of low income and ethnic minority people is tied intimately to development of commuter centers in urban areas. This has been a main thrust of Colorado public higher education in the 1960's. Participation is growing; Commission policy has called on institutions not only to admit, but actively to seek out, these students. The financial aid program is a major influence here. The Commission expects to place high priority on student aids and other programs that recognize the needs of the educationally and economically deprived.

Geographical Considerations in Planning. Geography is one of the important considerations in access. The goal of placing higher education in the commuting range of the entire population is difficult to attain in such a state as Colorado, with much space and, in large sections, few people. The Commission has delineated 13 areas

for geographic access. Participation in higher education in relation to its availability within the area is shown in text tables.

Distributing the Numbers
(Chapter 2. Accommodating Students in the 1970's)

Projected numbers in higher education will always be inexact unless they are rigidly controlled.

Rigid controls can be imposed for a particular program, or for a particular institution, without doing violence to the notion of an open system. They cannot be imposed on all programs and all institutions without destroying openness. The Commission believes in system openness, and therefore, in general, in projections and guidelines rather than in rigid controls.

Magic numbers applied to higher education seldom display their magic. Thus attempts to set the optimum size for one or another kind of institution often reflect the local reality rather than abstract analysis. There are considerations--educational, managerial and geographic--that suggest uppermost and lowermost sizes; but there is no authoritative national guideline for optimum size.

Nevertheless there is sound reason for any institution to target its ultimate size; in doing so it can avoid such costly mistakes as making its library or its steam lines too small. Similarly, planning for a statewide system requires an understanding of how big particular institutions will be.

In the preliminary edition of this report the Commission proposed maximum ultimate sizes for all. Since that time, some changes have been indicated. For instance, Western State College at Gunnison has decided, in view of the size of the city and its ability to provide essential services, that it has become as large as it should be. For all institutions the revised ultimate size figures recommended by CCHE are given in the text.

Changes have occurred as well in the projections of the size some institutions will have attained by 1975 and 1980. Notably, enrollment projections have been revised downward for three universities--the University of Colorado, Colorado State University and the University of Northern Colorado--a reduction from previous projections for these institutions of 4500 students by 1975 and of some 12,900 students by 1980.

Revised enrollment projections for each of the public institutions made in summer 1971, adjusted to be comparable to statewide projections A and B (which include private college enrollments), add up to a total institutional capacity in 1980 some 10 percent below the high estimate of demand (Projection A) and some 3 percent above the low estimate (Projection B). Which among the three estimates turns out to be most nearly correct will depend upon the policies of encouraging or limiting educational opportunity which are adopted by the state, and upon the response of Coloradoans to the available opportunities.

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ze for one or another kind of institution often reflect
bstract analysis. There are considerations--educational,
at suggest uppermost and lowermost sizes; but there is
eline for optimum size.

und reason for any institution to target its ultimate size;
costly mistakes as making its library or its steam lines
g for a statewide system requires an understanding of how
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on of this report the Commission proposed maximum ulti-
t time, some changes have been indicated. For instance,
nison has decided, in view of the size of the city and
services, that it has become as large as it should be.
ultimate size figures recommended by CCHE are given

as well in the projections of the size some institutions
nd 1980. Notably, enrollment projections have been re-
versities--the University of Colorado, Colorado State Uni-
Northern Colorado--a reduction from previous projections
students by 1975 and of some 12,900 students by 1980.

ections for each of the public institutions made in summer
ble to statewide projections A and B (which include pri-
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of demand (Projection A) and some 3 percent above the
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d by the state, and upon the response of Coloradoans to

Types of Institutions
(Chapter 3. Planning for Growth: Institutions and their Programs)

A balanced system of higher education requires a diversity of institutions matching the diverse talents and demands of participants and the requirements of state and national economy and well-being.

With the developments of the last decade, Colorado is well on its way toward such a balanced system. Its three principal components are community colleges, senior colleges and universities. Though each institution has special characteristics that distinguish it from all others, nevertheless institutions within a type are similar to one another and dissimilar from the other types.

Community colleges are oriented toward the community, and emphasize less the subject of study than the student as individual. Their program leads either to an immediate occupational objective or to further study for a baccalaureate degree. Closely related to community colleges are area vocational schools, rounding out occupational education programs for youths and adults. In Colorado, a number of community colleges have also been designated as area vocational schools.

Senior colleges serve both the particular needs of their regions and the wider interests of the state. The balance between the two is essentially one of geography; for instance, in the large urban centers, the clientele of the colleges is very largely of local origin. The primary focus of the senior colleges is on those students desiring a first or second level degree but not oriented toward research or advanced professional education. In this focus, the senior college shares some of the occupational orientation of the community college and some of the scholarly orientation of the university.

Compared to the community colleges and senior colleges, universities bear little relationship to their community. Their reach is to the state and, when they are capable of it, to a multi-state region and indeed to the nation. Their emphasis is on the professions and the more specialized and advanced levels and areas of knowledge.

Colorado is now in fairly good condition in the geographic spread of its community colleges. Each of the 13 higher education areas has a community college, or public institution offering a mix of opportunities, except the East Central and North Mountain areas. Population projections in these two areas make it not feasible to consider establishments there; and this leads the Commission to study such alternatives as arrangements with other states, educational subsidies, or outreach programs from the existing community colleges.

It is possible that further institutions may be needed, notably in the Denver-Fort Collins-Greeley triangle and to the east and southeast of Denver. The form of these potential new institutions--outposts, free-standing or other--will become more clear with the passage of time.

Primarily undergraduate, the state colleges also offer masters level programs in selected areas. Expansion of graduate work must be carefully reviewed because of the high cost of small programs.

The special character and the geographical position of each of the state colleges in Colorado leads to a spelling out of its appropriate role which is contained within the text.

In the years 1965-1970, headcount enrollment at the state colleges increased almost as fast as at the community colleges, and faster than at the universities (5-year increases: community colleges, 14,573; colleges, 14,437; universities, 13,267). More than half the state college growth occurred at the two newest, most urban and most comprehensive institutions--Metropolitan State College and Southern Colorado State College.

There are three special situations with respect to types and numbers of institutions.

El Paso County needs a strong 4-year public college, with selected masters programs. The issue of governance, clouded by constitutional restrictions against the conduct of a degree-granting college by the Regents of the University of Colorado elsewhere than in Boulder, is to be worked out.

The Western Slope in general, and in particular the area around Grand Junction, is in a rather delicate state of balance between need for expansion of higher education and sufficient population to support the expansion. The Commission has this matter under study; it expects soon to point the way to appropriate decisions.

Universities, as the capstone of the higher education structure and as the most expensive elements of that structure, require special attention. Roles of the comprehensive universities and the specialized institutions are spelled out in the text. The Commission specifically notes that these institutions have been asked to emphasize those programs and levels of study which only they can make available; that this is a high-cost directive; and that budgetary recognition of this directive is imperative.

The Denver Metropolitan Area
(Chapter 4. Higher Education in the Denver Metropolitan Area)

The long-standing inadequacy of public higher education in the Denver metropolitan area began to be resolved in the 1960's, with creation of Metropolitan State College and the Community College of Denver.

These two institutions, together with the Denver Center of the University of Colorado, Arapahoe Community College, the private colleges and university of the area, and such related institutions as Emily Griffith Opportunity School of the Denver Public Schools, must meet the higher education needs of a community of more than one million people.

Because both Metropolitan State and Community College of Denver are new, urban and to some extent occupationally-oriented, the definition of their roles and relationships was crucial. Statements of their roles, and of that of the Denver Center of the University of Colorado, have been approved by their governing boards and by the Commission and appear in the text.

The joint involvement of the three institutions in the Auraria Higher Education

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The Costs.
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Center offers a unique opportunity for educational leadership and for educational sense-making. Not only will they occupy the same downtown space with their unique programs; it is quite possible that Metro and the Center will conduct offshoots at non-downtown centers of the Community College.

All three levels of government have given their blessing and promised their money to the development of Auraria--the city, the state, the federal government. Time is pressing in; already space rentals are costing $2 million a year, and additional appropriate space is becoming more difficult to find. As things now appear, it will be 1974 or 1975 at the earliest before the first increment of space in Auraria is usable. The need becomes more urgent as the time for planning wanes. The doors that swung open so refreshingly and invitingly during the 1960's will begin to close during the 1970's unless physical construction begins to match the conceptual boldness.

Who Governs?
(Chapter 5. Coordination, Planning, and Governance of Higher Education in Colorado)

The question of governance in higher education is a thorny and perpetual one. In this, higher education is not unique. Efficiency and scale; centralization and decentralization; local control or more distant control--these questions are as thorny and as perpetual with public schools, and with state and national government, as they are with higher education.

The Commission was created as a coordinating body in 1965. It is an agency whose reason for being is to strengthen the total system of higher education, which means it must at times, in the interest of statewide priorities, disappoint individual institutions, individual communities, and individuals.

The creation of the Commission did not still the discussions of organization and reorganization. Indeed, earlier in 1971 the Commission proposed to the Legislature a study of the governance and coordination of higher education; and this study is now being conducted by a reconstituted Committee on the Organization of State Government.

The extremes are on the one hand to have each institution governed by an autonomous board, and on the other to have one central governing board for all institutions. Somewhere in between lies the notion of a rational number of governing boards and a coordinating agency.

The Commission is in favor of a system of statewide coordination rather than of statewide governing. This does not mean that the Commission wants frozen what exists now. On the contrary--within the general framework of coordination, many changes are possible and some may be desirable. The Commission is working on these questions and will present its recommendations to the Committee on Organization of State Government.

The Costs.
(Chapter 6. Estimating the Costs)

If financial resources always matched educational needs, life would be simple. The match is not always present; the problem is. The projection of costs, to be

meaningful, must always be presented in the perspecti
are fraught with uncertainty. There are the overridin
economy and the extent of inflation. There are publ
aid to education, special state encouragement of cert
There are such imponderables as the public attitude t
tion.

Thus costs projected for higher education can b
definitive.

Higher education costs will increase during the
that of the 1960's.

Expenditures rose from $26.8 million to $109.5

They are projected to rise to $234 million by 1
if the low enrollment projection is used and the rate
per FTE student. With the low growth rate and an a
cent, they are projected to rise to $218 million by 1

By 1980 this will be either 2.6 or 2.2 times th
annual increase in cost per student, then the 1980 co
cost.)

This increase is large; but it is significantly sm
decade, when the 1970 cost was 4.0 that of 1960.

While the costs of higher education are growing
on which is based its ability to pay these higher cost

In the decade 1960-70, overall state revenue i
Fund increased 3.3 times; income tax proceeds increa
nues increased 2.9 times. There is reason to hope th
the requirement to pay during the present decade.

Capital construction represents a special proble
$341 million need through 1980 is now reduced to $2
the slower growth rate of the universities. A backlo
limited funding for 1971-72 lead to the conclusion th
from current revenues or borrowing must be approved
mediately ahead. Failing these, then, for lack of s
begin to swing closed again.

But here too there is hope for the future. If s
the new institutions are housed in permanent facilitie
with the slowdown of enrollment growth expected in
there is reason to believe that increasing state reven
capital construction on a pay-as-you-go basis without

ys be presented in the perspective of projected resources. Both
tainty. There are the overriding questions of the state of the
nt of inflation. There are public policy questions such as federal
cial state encouragement of certain programs, tuition policy.
erables as the public attitude toward education and toward taxa-

cted for higher education can be at best illustrative rather than

n costs will increase during the 1970's, but at a rate slower than

e from $26.8 million to $109.5 million during the 1960's.

ed to rise to $234 million by 1975 and to $334 million by 1980,
projection is used and the rate of increase is 5 percent a year
h the low growth rate and an annual cost increase of 3.5 per-
ed to rise to $218 million by 1975 and to $289 million by 1980.

l be either 2.6 or 2.2 times the 1970 cost. (If there were no
t per student, then the 1980 cost would be 1.6 times the 1970

large; but it is significantly smaller than that of the previous
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of higher education are growing, so too is the state's revenue
ability to pay these higher costs.

960-70, overall state revenue increased 2.27 times; the General
nes; income tax proceeds increased 3.4 times, and sales tax reve-
nes. There is reason to hope that the ability to pay will outstrip
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tion represents a special problem. The previous estimate of a
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of the universities. A backlog of approved projects and the
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re is hope for the future. If steps are taken so that students of
e housed in permanent facilities by the close of this decade, and
enrollment growth expected in the latter part of the decade,
eve that increasing state revenues will then be able to fund
n a pay-as-you-go basis without strain.

Chapter 1

ASSESSING THE NEEDS

In the United States "higher education" embraces a wider variety of colleges and enrolls a larger proportion of the population than in any other nation. In many countries the higher education system includes only a handful of traditional universities and pedagogical and technological institutes. In this country institutions called colleges and universities abound--there were 2,551 in Fall 1969. The varying kinds and qualities of programs offered as well as the dispersal of institutions are twin factors which, along with public subsidy of the costs, have made it possible for a large proportion of the population to continue formal education beyond high school.

Evidence of the broad public appeal of higher education in Colorado today is indicated in the numbers of students enrolled. Thirty years ago (1940) there were 16,439 students in Colorado public and private institutions of higher education. The number represented less than 1.5 percent of the state's population. In 1970 there were 116,678 students in colleges in Colorado--5.3 percent of the population. Of these students 102,494 were in the state-supported institutions.

The enrollment growth of the 1960's was the result of a number of forces. In the background was broad-scale confidence in education as the best avenue for personal advancement and public well-being. Public policy in Colorado was well expressed in the 1961 report of the Legislative Committee on Education Beyond High School:

> Every person should have access to education beyond high school if he wants it and demonstrates he can benefit from it. This means that alternative educational opportunities should be available which are directly related to needs and abilities of those who can profit from such education.

Also underlying the boom in enrollments was the growth in the age group from which most college students have been coming--between 1960 and 1970 the population in the census age groups between 15 and 24 years of age grew from 242,923 to 421,959, or 73.7 percent, while the total population of the state grew 26 percent. Another important factor was the provision of new comprehensive college facilities in the most heavily populated regions, accessible to students who could live at home and, in many cases, continue in employment while going to college. General conditions of economic well-being made it possible for individuals and families as well as for the state to sustain the rising costs involved.

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In the past, then, and particularly in the decade of the 1960's, the task of planning for higher education has been a job of planning for more--more students, more teachers, more classrooms, more money. The assumption that more formal education is desirable was scarcely recognized as an assumption at all; like the air we breathe, it was "there," a seeming fact of life.

Today the idea that more education is inherently good, and that more classrooms and teachers and students are inevitable, is under study, even under attack. Further, in public discussion serious questions are being confronted concerning growth in population, and in some places changes in birthrates have leveled and are even reducing somewhat the numbers of children entering elementary school. Such factors change substantially the circumstances of planning for the future of higher education.

The past remains nonetheless a significant guide to the future, probably the best guide available. Social needs and customs and the institutions such as educational systems which arise to provide for those needs and customs do not change overnight. Thus in planning for future educational services, information derived from past experience is of genuine importance. Obviously today, when social changes seem to come more rapidly than in the past and when a number of impending changes appear to relate directly to the educational system, it is essential to be ready to forge new plans to reflect changing conditions.

Projecting Future Enrollments

Planning for the years ahead may appropriately begin with the assessment of future demand for educational programs and services of types which have been established by virtue of public needs of the past and present. Basically, this is a matter of estimating future demand for places in post-secondary programs.

The task of estimating future enrollments is complex because the actual number of students who eventually turn up in college depends upon many changing elements--birth rates, numbers of persons moving into or out of the state, increasing tendency of persons beyond "college age" to enroll in college, numbers of Colorado residents electing to attend college in other states, kinds of educational programs that are made

available within the state, geographic proximity of such programs to major centers of population, distribution of the cost of education as between the student and the general taxpayer, availability of financial assistance to potential students requiring such aid, alternatives to enrolling in college, and others.

In the past when there seemed to be no question that going to college was the "in" thing, projections of future enrollments typically fell short of actual experience. For example in 1954, projections were made for 1969 by the Association of State Institutions of Higher Education in Colorado; the estimates for 1969 were exceeded before the great enrollment boom that began in 1963! Even the highest of three projections for 1965 made by the Committee on Education Beyond High School in 1959 proved to be low.

In 1970, certain factors suggest that some of the forces which have contributed to more college-going in the past may change. Principal among these is the rising proportion of high school graduates who go on to college. For the state as a whole the ratio of entering freshmen in the Colorado public institutions to high school graduates of the prior June stood at 34.9 percent in 1960 and is estimated at 45.6 percent in 1970, with growing indications that in Colorado as in some other states this proportion may have reached its peak.

Other forces may reduce college-going tendencies. There is substantial evidence that many young people attending college today are there because of lack of preferred alternatives. In some sectors of the youth culture there is considerable disenchantment with what has been called the "acquisitive society" and with educational programs oriented toward preparation for success in that society. The development of educational television and other new educational delivery systems which make formal education possible in home, factory and office, coupled with some breakdown in the rigidities of credit-counting on the part of the colleges, may serve to expand education outside college classrooms. Rising tuition charges and costs of college-going generally will at minimum force reconsideration of the values to be realized, and may reduce college-going tendencies.

Over against these considerations are several factors that suggest that during the 1970's, enrollments will continue to grow very substantially. One of these is the number of persons in the age groups from which most students come. Commission projections of the 15-24 age group, based on 1970 census data, show this age group increasing by nearly 100,000 (from 421,959 in 1970 to 518,021 in 1980).[1] Since a substantially higher proportion of the age group goes to college in 1970 than went in 1960 and, since this proportion is continuing to rise, it is apparent that in 1980 there will be many more students of "college age" available for college.

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[1]State Planning Office projections for 1980 have not yet been updated to correct for 1970 census data, which showed the 15-24 age group in fact to be 11.2 percent larger than the Planning Office had projected in 1969. The Commission calculations correct for the actual 1970 number but may not agree precisely with updated State Planning Office projections when they appear.

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A second major reason that Colorado can expect to enjoy little if any respite from an uninterrupted annual increase in college enrollments through the 1970's into the 1980's is that unlike many states, Colorado continues to attract large numbers of new residents from other states and countries. Barring almost revolutionary changes in national and state policy relating to control over land ownership and use, it is doubtful that the influx could be turned off.

A third major reason that enrollments in Colorado colleges and universities will continue to rise is that the advent of the "commuter college," particularly the occupationally oriented community college, has had an impressive impact on the tendency of persons outside the ordinary college-going years to go to college. Among first-time freshmen entering college in Fall 1970, in the university sector only 2.5 percent were over 25 years of age and in the state colleges, only 4.2 percent; but in the community colleges, 33.4 percent were in this older age group.[2] It is to be expected that a growing proportion of Colorado enrollments will be found in the two-year colleges. It is also to be expected that a growing proportion of Colorado enrollments will comprise students who heretofore have been unable to become students despite their needs and desires. Though it is gratifying that the evolving Colorado system "fits," the very success of the commuter schools in meeting citizen needs taken together with the other factors cited means that enrollments in Colorado seem sure to continue to rise significantly.

In the face of these counterforces--some suggesting that college-going will be less popular and others suggesting that the numbers seeking places will continue to grow rapidly--the planning task requires that specific assumptions be identified and applied to specific data and that the entire process should be subjected to modification and updating as actual experience directs. The importance of continuing surveillance and updating cannot be overstressed.

Significant data relating to population, enrollment, and college participation rates are summarized in Table 1, following, for the years since 1960. These data apply to the total system of higher education in Colorado, public and private,[3] and provide bases which can be used for estimation of enrollment growth in future years.

The "Participation Rate" (Column 3) is the percentage of the Colorado population aged 15-24 represented by Colorado residents who were enrolled in the public and private colleges in Colorado in the years indicated. This rate of participation grew relatively steadily and rapidly, nearly doubling during the decade. The Column 4 figure is the percentage by which the participation rate grew from one year to the next. In only one year during the decade was this factor less than zero, indicating that only in that year (1962) did the 15-24 population increase more rapidly than the participation rate. In 1965 it was 16.1 percent, a one-year increase of nearly one-sixth. Consistently in each year during the last half of the decade the increase in participation rate has been in the area of six to seven percent. During the first four years of

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[2]From data available in CCHE files.

[3]Private institutions included in CCHE data are University of Denver and the following colleges: Colorado, Loretto Heights, Regis and Temple Buell.

Table 1

Colorado Population Aged 15-24 and Attendance in Colorado Public and Priv

	1	2	3	4	5
Year	Colo. Population, Ages 15-24	Colo. Resident Students	Participation Rate (%)	Percent Increase in Participation Rate	Nonresi Number
1960	242,923	30,492	12.552	--	15,848
1961	256,788	32,352	12.599	0.37	16,371
1962	270,653	34,059	12.584	(0.12)	16,775
1963	284,518	36,709	12.902	2.52	17,631
1964	298,383	41,519	13.915	7.85	19,419
1965	312,248	50,445	16.155	16.09	22,115
1966	325,663	56,225	17.265	6.87	24,133
1967	339,078	62,690	18.488	7.08	26,328
1968	352,491	68,976	19.568	5.84	28,183
1969	365,906	76,196	20.824	6.41	29,778
1970	379,321	84,582	22.298	7.07	32,086

NOTES:
1. 15-24 age base includes the traditional "college-age" population.
2. Column 1 data from State Planning Office 8/1/69 "Population Projections 1960-198
3. 1960-67 data in Column 2 are CCHE staff estimates of total numbers of Colorado re and private colleges and universities.
4. Private college enrollments included are University of Denver and Colorado, Loretto
5. Totals in Column 7 for years 1960-68, inclusive, are from page 8, Patterns of Prog
6. Column 3 shows ratio of all Colorado resident students enrolled (Column 2) to total
7. Column 4 (percentage increase) for any year equals percentage by which participati participation rate for previous year.

Table 1
Colorado Population Aged 15-24 and Attendance in Colorado Public and Private Colleges, 1960-1970

1	2	3	4	5	6	7	8
Population, 15-24	Colo. Resident Students	Participation Rate (%)	Percent Increase in Participation Rate	Nonresident Students		Total Enrollment	Colo. Residents as % of Total
				Number	% of Total Enrollment		
,923	30,492	12.552	--	15,848	34.2	46,340	65.8
,788	32,352	12.599	0.37	16,371	33.6	48,723	66.4
,653	34,059	12.584	(0.12)	16,775	33.0	50,835	67.0
,518	36,709	12.902	2.52	17,631	32.4	54,340	67.6
,383	41,519	13.915	7.85	19,419	31.9	60,938	68.1
,248	50,445	16.155	16.09	22,115	30.5	72,560	69.5
,663	56,225	17.265	6.87	24,133	30.0	80,358	70.9
,078	62,690	18.488	7.08	26,328	29.6	89,019	70.4
,491	68,976	19.568	5.84	28,183	29.0	97,159	71.0
,906	76,196	20.824	6.41	29,778	28.1	105,174	71.9
,321	84,582	22.298	7.07	32,086	27.5	116,678	72.5

4 age base includes the traditional "college-age" population.
mn 1 data from State Planning Office 8/1/69 "Population Projections 1960-1980" for Colorado.
-67 data in Column 2 are CCHE staff estimates of total numbers of Colorado resident students enrolled in Colorado public private colleges and universities.
te college enrollments included are University of Denver and Colorado, Loretto Heights, Regis and Temple Buell Colleges.
ls in Column 7 for years 1960-68, inclusive, are from page 8, Patterns of Progress (Fall headcount data).
mn 3 shows ratio of all Colorado resident students enrolled (Column 2) to total Colorado population, ages 15-24 (Column 1).
mn 4 (percentage increase) for any year equals percentage by which participation rate for that year (Column 3) exceeds icipation rate for previous year.

the decade when there was no significant expansion of educational programming in existing or new institutions the average annual increase in rate of college participation was just under one percent (Table 1 Column 4). This percentage rose sharply in and after 1964.

The rate of participation expresses the proportion of a given population group represented by numbers enrolled in college. Assuming that population was constant in a state having only one university, one might nonetheless expect that as living standards rose, student aid programs were provided, and societal needs for highly trained people were in evidence, more and more people would go to that university. Within a more diverse and geographically available educational system the proportion of the population going to college would increase much more--more persons could obtain education in occupational areas, for example, and, with new colleges near home, many would go to college who could not afford to do so before or who were employed and could not leave home. Expansion of the kinds of programs available in Colorado higher education institutions, and in the numbers and geographic accessibility of these institutions, are important reasons for the very rapid growth in the rate at which Coloradoans have taken advantage of higher education opportunities.

Obviously, population increase has also contributed significantly to the increase in enrollments. In the 15-24 age group, used as the base for calculating the participation rates shown in Table 1, the increase from 1960 to 1970, based on the estimates and projections of the State Planning Office as revised to 1969, was expected to be 136,398 or 56 percent.[4]

Preliminary reports from the 1970 census now indicate that the actual increase in the 15-24 group has been considerably higher than these projections, with the largest excess of actual over projected population growth occurring in the young adult group (ages 20-24). Here, it appears that the actual numbers living in Colorado at the time of the 1970 census enumeration exceeded the 1969 estimates by more than 29,000, or some 16.6 percent, doubtless reflecting a higher-than-anticipated level of inmigration to Colorado on the part of this highly mobile sector of American society. Stated another way, while Colorado's total population according to the census data increased during the decade of the 1960's by 453,315, or 25.8 percent, the 15-24 age group grew by 73.7 percent, and the 20-24 sub-group actually increased by 82.3 percent.

It is also important to note that while the participation rates shown in Table 1 have been calculated as the ratio of Colorado resident enrollments to the total number of Colorado residents aged 15-24 in each year of the tabulation, the numbers actually attending college during this decade have increasingly come from age groups 25 and older. This fact has accounted in part, but only in part, for the marked increase already noted in the participation rate during the later 1960's, when the expansion of educational opportunities, especially in the two-year college sector, attracted increasing numbers of older students. As has already been noted, one-third of the first-time

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[4]This projected increase took into account, of course, the known and predictable impact of the "baby boom" of the mid-40's; it was this factor that was expected to produce a 56 percent growth in this age group while the state's population as a whole would grow by 21.3 percent.

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in this age group while the state's population as
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students entering Colorado two-year colleges in Fall 1970 were 25 and over, a fact which certainly suggests that well over a third of their total enrollments were more than 25 years of age. It is apparent that large numbers of students in the four-year institutions also are over 25, especially in graduate and professional schools, and reports from the urban four-year colleges indicate that they enroll large numbers of such students.

These will be important factors to take into account in establishing planning ratios for the future, especially during that period around 1980 when the traditionally-defined "college-age" group (comprised within the 15-24 segment used in the present tables[5]) levels off in its projected growth rate with the passing of the "bulge."

Another component of Table 1 pertains to nonresident students. This number doubled during the last decade, though the proportion of nonresidents to total enrollment in the public and private institutions fell from 34.1 to 27.5 percent because the enrollment of Colorado residents increased even more. During the decade the largest of the private institutions (University of Denver) and very likely all of the private institutions increased markedly the proportion of nonresident as compared to Colorado students to a point at which approximately 10,000 of their 14,200 students are estimated to be nonresidents. However the Colorado public institutions have long attracted large numbers of students from out of state, ranking second only to Michigan in the net numbers of nonresidents enrolled as compared to the number of resident students who attend public colleges in other states.[6] In projecting future enrollments particular consideration must be given the numbers of nonresidents to be admitted. Further background and policy considerations are presented below.

Estimates of future demand for higher education in the public and private colleges of the state, based upon assumptions in turn derived from experience during the eleven years 1960-1970 but with modifications to take account of changing circumstances, are set forth in the following Projections A and B.

Projection A is based on assumptions that produce substantially higher estimates than Projection B. It is assumed in the high projection that the annual rate of increase in college-going by Colorado residents will steadily decline from an increase of just over 7 percent (1970 over 1969) until in and after 1979 it stands at the 1.009 percent increase average of 1961-1963. Such an on-going increase in the rate of college-going is not an unreasonable assumption in light of the possibility of further expansions of educational services in the most heavily populated areas by late in the decade; the fact that recently established commuter institutions remain in a growth stage; the need for

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[5]The 15-24 age group has been used in Commission tabulations for want of more precise data. Since college students under 17 are rare indeed and those under 18 are relatively few, we would begin the reference group at age 18 if appropriate information were available. It is not. Census reports and State Planning Office estimates by age groups proceed in five-year increments (0-4, 5-9, 10-14, 15-19, 20-24, etc.)

[6]Residence and Migration of College Students, Fall 1968, Analytic Report, National Center for Educational Statistics, U.S. Office of Education, page 9.

Table 2

Enrollment Projection A (High)

A Projection to 1980 of Demand Based on Estimated Participation Rates Related to Colorado

	1	2	3	4	5
Year	Colo. Population, Ages 15-24	Colo. Resident Students	Participation Rate (%)	Percent Increase in Participation Rate	No Numb
1970	379,321	84,582	22.298	7.07	32,0
				PROJECTIONS	
1971	395,406	94,336	23.858	7.00	34,2
1972	411,492	104,552	25.408	6.50	36,0
1973	427,576	115,155	26.932	6.00	37,4
1974	443,662	125,459	28.278	5.00	38,5
1975	459,747	135,207	29.409	4.00	39,3
1976	468,295	141,851	30.291	3.00	39,5
1977	476,843	147,325	30.896	2.00	39,6
1978	485,390	151,461	31.204	1.00	39,7
1979	493,938	155,511	31.484	0.90	39,7
1980	502,486	159,625	31.767	0.90	39,7

NOTES:
1. Column 1 data from State Planning Office 8/1/69 "Population Projections 1960-1
2. Column 3 data equal Columns 2 divided by Column 1.
3. Column 4 ("Percent Increase") for any year equal percentage by which participat
4. Column 4 assumes estimated growth factor for 1970 will decline by 1979 to 1961-
5. Column 3 projections for 1970-80 are obtained by applying column 4 yearly grow
6. Column 2 projections for 1971-80 equal column 1 times column 3 (as a percent).

Table 2
Enrollment Projection A (High)
o 1980 of Demand Based on Estimated Participation Rates Related to Colorado Population Aged 15-24, Public and Private Institutions

1	2	3	4	5	6	7	8
. Population, ges 15-24	Colo. Resident Students	Participation Rate (%)	Percent Increase in Participation Rate	Nonresident Students Number	Nonresident Students % of Total Enrollment	Total Enrollment	Colo. Residents as % of Total
379,321	84,582	22.298	7.07	32,086	27.5	116,678	72.5
			PROJECTIONS				
395,406	94,336	23.858	7.00	34,200	26.6	128,536	73.4
411,492	104,552	25.408	6.50	36,000	25.6	140,552	74.4
427,576	115,155	26.932	6.00	37,400	24.5	152,555	75.5
443,662	125,459	28.278	5.00	38,500	23.5	163,959	76.5
459,747	135,207	29.409	4.00	39,300	22.5	174,507	77.5
468,295	141,851	30.291	3.00	39,500	21.8	181,351	78.2
476,843	147,325	30.896	2.00	39,650	21.2	186,975	78.8
485,390	151,461	31.204	1.00	39,725	20.8	191,186	79.2
493,938	155,511	31.484	0.90	39,725	20.3	195,236	79.7
502,486	159,625	31.767	0.90	39,700	19.9	199,325	80.1

olumn 1 data from State Planning Office 8/1/69 "Population Projections 1960-1980" for Colorado.
olumn 3 data equal Columns 2 divided by Column 1.
olumn 4 ("Percent Increase") for any year equal percentage by which participation rate for that year exceeds participation rate of previous year.
olumn 4 assumes estimated growth factor for 1970 will decline by 1979 to 1961-63 average (1.009) and stabilize.
olumn 3 projections for 1970-80 are obtained by applying column 4 yearly growth factors to 1970 estimate of 22.298.
olumn 2 projections for 1971-80 equal column 1 times column 3 (as a percent).

Table 3
Enrollment Projection B (Low)
A Projection to 1980 of Demand Based on Estimated Participation Rates Related to Colorado

	1	2	3	4	
Year	Colo. Population, Ages 15-24	Colo. Resident Students	Participation Rate (%)	Percent Increase in Participation Rate	N
1970	379,321	84,582	22.298	7.07	
				PROJECTIONS	
1971	395,406	92,572	23.412	5.00	
1972	411,492	100,672	24.465	4.50	
1973	427,576	108,788	25.443	4.00	
1974	443,662	116,830	26.333	3.50	
1975	459,747	124,693	27.122	3.00	
1976	468,295	130,186	27.800	2.50	
1977	476,843	135,214	28.356	2.00	
1978	485,390	139,700	28.781	1.50	
1979	493,938	143,242	29.000	0.76	
1980	502,486	145,721	29.000	0.00	

NOTES: This projection assumes (see also notes for Table 2):

1. "Demand" (measured as participation rate) will continue to grow during the stabilizing by 1979-80 at a 29 percent participation rate.

2. Nonresident enrollments are controlled, with steady reduction in numbers o to reduce the percent of nonresidents in total headcount from the present l

Table 3

Enrollment Projection B (Low)

1980 of Demand Based on Estimated Participation Rates Related to Colorado Population Aged 15-24, Public and Private Institutions

1	2	3	4	5	6	7	8
o. Population, es 15-24	Colo. Resident Students	Participation Rate (%)	Percent Increase in Participation Rate	Nonresident Students Number	Nonresident Students % of Total Enrollment	Total Enrollment	Colo. Residents as % of Total
379,321	84,582	22.298	7.07	32,086	27.5	116,678	72.5
			PROJECTIONS				
395,406	92,572	23.412	5.00	32,000	25.7	124,572	74.3
411,492	100,672	24.465	4.50	31,750	23.98	132,422	76.02
427,576	108,788	25.443	4.00	31,350	22.4	140,138	77.6
443,662	116,830	26.333	3.50	31,000	20.97	147,830	79.03
459,747	124,693	27.122	3.00	30,500	19.7	155,193	80.3
468,295	130,186	27.800	2.50	30,000	18.7	160,186	81.3
476,843	135,214	28.356	2.00	29,500	17.9	164,714	82.1
485,390	139,700	28.781	1.50	29,000	17.2	168,700	82.8
493,938	143,242	29.000	0.76	28,500	16.6	171,742	83.4
502,486	145,721	29.000	0.00	28,000	16.1	173,721	83.9

projection assumes (see also notes for Table 2):

"Demand" (measured as participation rate) will continue to grow during the '70's, but at a decelerating rate of annual increase, stabilizing by 1979-80 at a 29 percent participation rate.

Nonresident enrollments are controlled, with steady reduction in numbers of spaces made available to other than Colorado residents, to reduce the percent of nonresidents in total headcount from the present level of 27.5 percent to around 16 percent by 1980.

and possibility of expanding services to rural areas; the likelihood that the numbers of Colorado residents now attending college in other states (11,205 in 1968) will decline as tuition increases and admissions controls in other states are effected; and the encouraging response of the large population group embracing minorities and disadvantaged youth to the expansion of college opportunities in recent years.

Projection A assumes that the number of nonresidents in the public and private institutions will continue to grow but at a declining rate until the total number itself begins to decline in 1980. During the decade the number of nonresidents would increase by about 7,600, less than half the increase of some 16,000 which occurred during the 1960's. While more rigid control over nonresidents is feasible, several considerations argue the reasonableness of some growth in their number. Some of the institutions are so located or are of such limited size that geography and marginal efficiencies suggest that the state would be well served by enrollment of additional nonresidents in these institutions, especially with tuitions which recover all or much of the operating costs. Moreover, the four institutions having major graduate programs (CU, CSU, CSM, UNC) offer these programs as part of a regional and national resource. Valuable as these programs are in establishing the primacy of Colorado higher education in the Rocky Mountain area, many graduate programs are so small that they could not reasonably be offered if they were open only to residents of the state.

It should be noted that in Projection A the proportion of nonresidents in the total expected enrollment declines from 27.5 percent in 1970 to under 20 percent in 1980.

Projection B employs more conservative assumptions about participation rates of Colorado residents and the admission of nonresidents. Though the 1970 increase in the participation rate for the 15-24 age group was over 7 percent and has been above 5 percent each year for the past seven years, this projection assumes a prompt and progressive decline in this increase until in 1980 the participation rate is stabilized. A prospective decline nationally in the rate of growth of the age group 15-24 seems to argue that such an assumption for Colorado is not unreasonable. Yet, operating strongly against this factor are (a) the increasing tendency of persons in the much larger age group 25 years and over to enroll for a course or a sequence or a degree program, and (b) the evident attraction this state exerts on young people in other parts of the country.

With respect to nonresidents, Projection B assumes an immediate reduction in numbers and a decrease in proportion so that in contrast to their 27.5 percent proportion in 1970, they will represent only 16.1 percent in 1980. In that year they would represent only 11.1 percent of enrollment in the public institutions.

Projections A and B, developed on the basis of differing assumptions concerning demand but on an identical procedure, bracket the projections developed by the Commission and institutions in 1969 and published in Patterns of Progress: Higher Education Enrollments in Colorado, 1960-1980 (see Chart 1 and Table 4, following). These estimates were called "status quo" projections because they were based on the assumption that the institutional growth trends of the past would continue without major changes brought about by public policy--such changes as limitation of total enrollment in some institutions, further restriction on nonresident admissions, and the like. The estimates were, in a sense, a statement of what the existing institutions expected to be able to supply by way of places in college, rather than (as in Projections A and B) expressions

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For Whom Shall We Plan?

The discussion above should make it apparent that the numbers in college in future years will depend upon state policy direction in higher education as well as upon the numbers of babies born 18 years earlier. Some of the areas for policy direction are discussed in remaining sections of this chapter. The issue of how large a piece of total demand each of the existing institutions should accommodate is considered in Chapter 2. Other areas for policy determination having implications for the size and nature of the total Colorado system of higher education are discussed in Chapters 3 and 4.

Colorado Policy for Nonresident Students

Colorado leads the nation in the appeal of its public institutions to undergraduate students from other states.[8] For purposes of sound long-range planning and for reasons of educational philosophy and objectives, enrollment limitations must be established for insitutional growth. As such limitations come into effect, the question must arise, when residents of the state are to be turned away from a program or an institution, should non-Colorado students be admitted?

Public officials have long been aware of Colorado's "net importer" position and concerned about possible implications for higher education expenditures. After consideration of the numbers of nonresidents in Colorado colleges and universities, and tuition levels for residents and nonresidents then in effect, the Legislative Committee for Education Beyond High School in 1962 proposed that:

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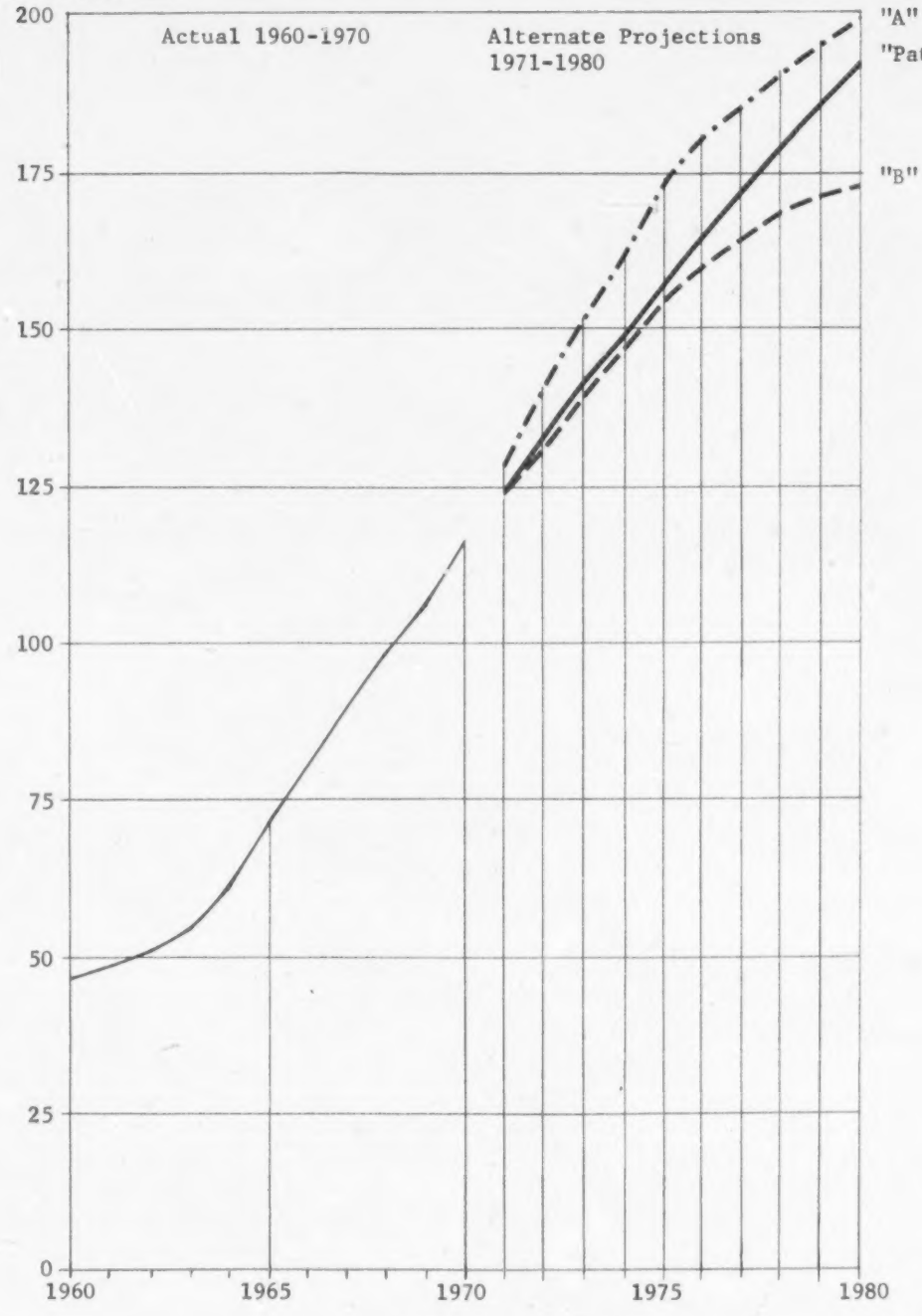
[7]The point is illustrated by comparing an "academic-oriented" institution such as Mesa College with Aims College. In Fall 1970, 81 percent of the new students at Mesa had completed high school in June 1970. At Aims, only 20 percent of the new entrants had graduated the previous June, and the same percentage had graduated twenty or more years previously!

[8]Technically, the point is that Colorado (1968) had the largest "net inmigration" for public undergraduate institutions--i.e. the largest difference between residents from other states who enrolled in its public institutions and the number of its own residents who enrolled in public institutions in other states. Residence and Migration of College Students, Fall 1968, Analytic Report, page 13.

Chart 1

Enrollment in Colorado Public and Private Colleges and Universities



Fall

Year	Two-
1960	6,
1961	6,
1962	6,
1963	4,
1964	5,
1965	6,
1966	8,
1967	10,
1968	14,
1969	16,
1970	21,
1971	26,
1972	30,
1973	33,
1974	36,
1975	39,
1976	41,
1977	43,
1978	44,
1979	46,
1980	48,

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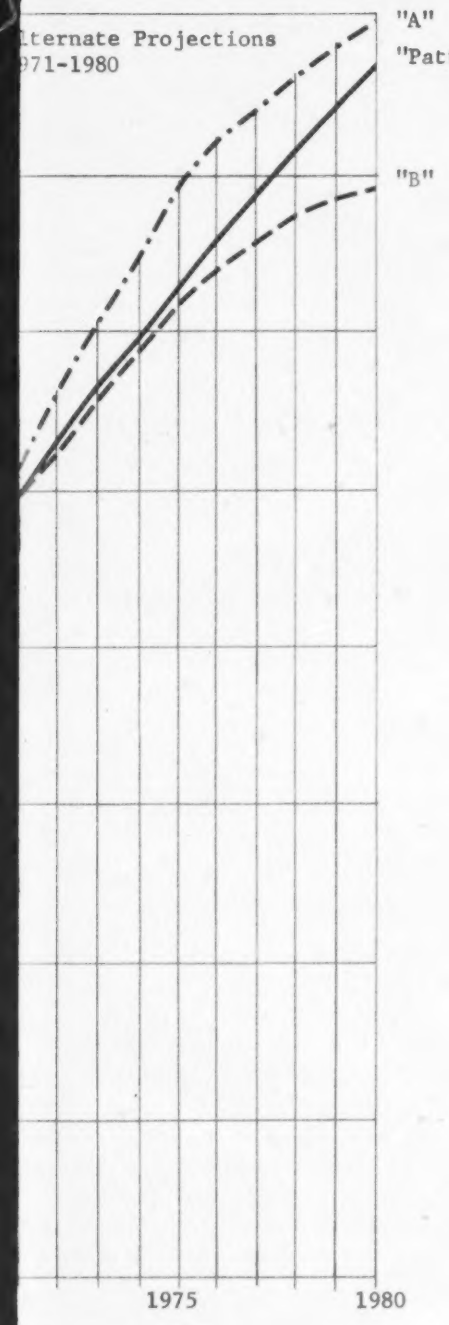

Table 4
Summation of Institution Enrollment Projections
Fall Head Count Enrollments (Colorado Resident and Nonresident)
Colorado Public and Private Colleges and Universities
(Actual 1960-1970; Projected 1971-1980)

Year	Public Sector				Private[2]	Grand Total
	Two-Year	State Cols.[1]	CU, CSU, CSM	Public Total		
			ACTUAL			
1960	6,050	6,649	23,953	36,652	9,688	46,340
1961	6,798	7,089	25,360	39,247	9,476	48,723
1962	6,419	8,240	26,533	41,192	9,643	50,835
1963	4,232	11,075	28,413	43,720	10,620	54,340
1964	5,034	12,928	31,632	49,604	11,334	60,938
1965	6,939	17,713	35,565	60,217	12,343	72,560
1966	8,516	20,809	38,267	67,592	12,766	80,358
1967	10,718	23,788	41,269	75,775	13,244	89,019
1968	14,140	26,158	43,082	83,380	13,779	97,159
1969	16,544	28,914	46,484	91,942	14,032	105,974
1970	21,512	32,150	48,832	102,494	14,184	116,678
			PROJECTIONS			
1971	26,920	34,783	48,466	110,169	14,277	124,446
1972	30,164	37,583	50,348	118,095	14,400	132,495
1973	33,387	40,307	52,485	126,179	14,522	140,701
1974	36,496	43,042	54,567	134,105	14,645	148,750
1975	39,572	45,911	56,701	142,184	14,766	156,950
1976	41,578	48,817	58,843	149,238	14,901	164,139
1977	43,243	51,707	61,023	155,973	15,035	171,008
1978	44,923	54,650	63,275	162,848	15,170	178,018
1979	46,642	57,541	65,617	169,800	15,304	185,104
1980	48,387	60,260	68,026	176,673	15,435	192,108

[1]ASC, FLC (beginning Fall 1962; previously operated as two-year), MSC, SCSC (beginning Fall 1963; previously two-year), UNC, WSC

[2]Colorado College, Loretto Heights, Regis College, Temple Buell College, University of Denver

NOTE: The above tabulation differs from most earlier tabulations in that it includes in the two-year sector adult evening credit enrollments, and in the university sector actual head counts at the Colorado Springs and Denver Centers, rather than estimated FTE's. Both actual and projected numbers thus are consistent with current reporting practice.

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> All state colleges and universities except the Colorado School of Mines, move as rapidly as possible to limit the number of out-of-state first-time entering freshmen to no more than 20 percent of the total first-time-entering freshmen who enrolled on each campus during the preceding fall term. The University of Colorado should continue to reduce the proportion of out-of-state first-time-entering freshmen so that the recommended level is reached by the fall term 1965. . .

No policy restraints were indicated for transfer students, total undergraduates, or graduate enrollments.

Under these policy guidelines, nonresident enrollments in Fall 1969 stood at 22 percent of total enrollment in the public two-year and four-year institutions.[9] Heaviest enrollments of nonresidents were at the Colorado School of Mines and University of Colorado (both 39.8 percent) and at Colorado State University (30.6 percent). The state colleges including Fort Lewis College were 15.2 percent on the average, and the state community colleges 6.6 percent (see Table 5, following).

A strong case can be made for the admission of a number of nonresident students as freshmen, transfers, and graduate students. At levels of tuition which cover most of operating costs, students who come from other states to attend college in Colorado probably contribute more to the total income of the state (through tuition and other taxed expenditures) than the cost of their education to the state. Many of them later make their homes in Colorado and contribute to its well-being for many years. In those upper level, graduate and professional programs in which enrollments are relatively low, economies in instruction provided for Colorado students can be improved by admission of appropriate numbers of nonresidents. Colorado law defining residence for tuition purposes is strict, and substantial numbers of students are so classified even though they pay taxes in the state and regard Colorado as their normal "residence."[10] For such reasons as those cited the state has recognized the desirability of a mix of nonresident along with resident students, even in the early 1960's when nonresident students paid a much lower proportion of the cost of their education than they have in recent years.

The Commission sees no reason for a doctrinaire approach to the issue of numbers of nonresidents. There are obvious economic as well as some educational advantages in encouraging such "resident tourists" when they can pay essentially the full cost of their education (and there may be sound reason for bringing in some nonresidents when they cannot). The issue becomes impo
by limitations of facilities or operatin
dents in the program concerned. The
should be to admit nonresident student
program or institution, at tuition charg
ties should be expanded, then, accord
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and instructional personnel. At this t
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In institutions other than CSM
nonresident students should pay full ec
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1. Nonresidents may represent
CU-Boulder, CSU, and U
limited to 15 percent.[12]

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Nonresident tuition should be set at f
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[9] The guidelines have been followed except that the University of Colorado has limited out-of-state first-time-entering freshmen to 1,000 each year.

[10] For example, military personnel, and individuals who have taken employment in the state but have not been in Colorado for one year, are nonresidents for tuition purposes. The large group of "nonresidents" at the University's Colorado Springs Center reflects in substantial part the large numbers of military personnel enrolled there. Detailed definitions and advisory opinions of the Attorney General have been published to promote uniformity in the application of the tuition law.

[11] "Educational and general" co
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[12] Because of the special circums
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enrollments in Fall 1969 stood at 22
and four-year institutions.[9] Heaviest
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they cannot). The issue becomes important at the point where an institution is forced by limitations of facilities or operating capacity to turn away qualified Colorado students in the program concerned. The goal of state policy, the Commission submits, should be to admit nonresident students until that point of turn-away is reached in any program or institution, at tuition charges which recover the cost to the state. Facilities should be expanded, then, according to the requirements for resident students and numbers of nonresidents given by the policies stated below.

The Commission recommends that institutions which, after admitting all Colorado residents qualified for their programs, have surplus facilities should be encouraged to admit without limitation nonresident students to provide for optimum use of facilities and instructional personnel. At this time these institutions would include the Colorado School of Mines and several of the community junior colleges located outside the urban areas of the state. Nonresident tuition for these institutions should be set through the annual budget process at the highest ratio to educational and general costs consistent with overall educational and economic goals of the institution and the state.[11]

In institutions other than CSM which offer baccalaureate (and higher) degrees, nonresident students should pay full educational and general cost and in number should not exceed 15 percent of total enrollment, with the following exceptions or provisions for enforcement:

1. Nonresidents may represent up to 50 percent of graduate enrollments at CU-Boulder, CSU, and UNC. Nonresident undergraduates should be limited to 15 percent.[12]

2. Where there are specific programs such as engineering, pharmacy and veterinary medicine in which the major portion of space requirements are in structures identified with such programs, if space remains available after Colorado residents have been admitted, larger numbers of nonresidents than indicated above may be admitted in these programs subject to CCHE review and appropriate legislative provision in the appropriation measure.

Two-year institutions other than those cited above should be oriented to commuting students in the local community and should not admit nonresidents other than those from the area who are classified by law as nonresidents for tuition purposes. Nonresident tuition should be set at full educational and general cost as in the baccalaureate colleges.

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[11] "Educational and general" costs should exclude rentals, extension and public service, capital outlay and "organized activities." This represents, in essence, full operating cost of the instructional program. The tuition policy reflects legislative intent as expressed in the Appropriations Act of 1971, with exceptions of the type provided in that Act.

[12] Because of the special circumstances of the Colorado Springs Center occasioned by the nonresident tuition law and the prevalence of military personnel in the area, together with the pending determination of this institution's scope of program, the proportion of nonresidents should be monitored by the Commission and approved by legislative action in the annual appropriation measure.

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Table 5

Fall 1969 Headcount Enrollment (By Resident and Nonresident) Colora

	Graduate					Undergraduate			
	Resident		Nonresident		Total	Resident		Nonresident	
Institution	No.	%	No.	%	No.	No.	%	No.	%
CSM	163	50.3	161	49.7	324	842	62.6	504	3
CSU	1087	48.1	1171	51.9	2258	9744	73.0	3608	2
CU-Boulder	1812	44.5	2261	55.5	4073	10462	64.1	5852	3
-Colo. Sprgs.	433	57.7	317	42.3	750	1204	76.6	368	2
-Denver	1265	76.2	396	23.8	1661	4344	90.4	461	
CU Subtotal	3510	54.1	2974	45.9	6484	16010	70.6	6681	2
Universities Total	4760	52.5	4306	47.5	9066	26596	71.1	10793	2
ASC	322	88.7	41	11.3	363	2092	84.5	384	1
UNC	796	59.4	545	40.6	1341	6263	77.6	1809	2
WSC	112	84.8	20	15.2	132	2391	80.9	565	1
Ft. Lewis						1455	78.6	396	2
MSC						5630	94.7	314	
SCSC						5436	94.2	333	
4-Yr. College Total	1230	67.0	606	33.0	1836	23267	86.0	3801	1
State CC's Total						7328	93.4	515	
Dist. CC's Total						9835	94.8	535	
Colorado Public Grand Total	5990	54.9	4912	45.1	10902	67026	81.1	15644	1

[1]This figure is 1630 (1.8 percent) higher than the total of 91.942 reported in Patterns non-credit public service enrollments in the two-year colleges are included in this re

Table 5

Fall 1969 Headcount Enrollment (By Resident and Nonresident) Colorado Public Colleges and Universities

Graduate					Undergraduate					Total				
Resident		Nonresident		Total	Resident		Nonresident		Total	Resident		Nonresident		Total
No.	%	No.	%	No.	No.	%	No.	%	No.	No.	%	No.	%	No.
163	50.3	161	49.7	324	842	62.6	504	37.4	1346	1005	60.2	665	39.8	1670
1087	48.1	1171	51.9	2258	9744	73.0	3608	27.0	13352	10831	69.4	4779	30.6	15610
1812	44.5	2261	55.5	4073	10462	64.1	5852	35.9	16314	12274	60.2	8113	39.8	20387
433	57.7	317	42.3	750	1204	76.6	368	23.4	1572	1637	70.5	685	29.5	2322
1265	76.2	396	23.8	1661	4344	90.4	461	9.6	4805	5609	86.7	857	13.3	6466
3510	54.1	2974	45.9	6484	16010	70.6	6681	29.4	22691	19520	66.9	9655	33.1	29175
4760	52.5	4306	47.5	9066	26596	71.1	10793	28.9	37389	31356	67.5	15099	32.5	46455
322	88.7	41	11.3	363	2092	84.5	384	15.5	2476	2414	85.0	425	15.0	2839
796	59.4	545	40.6	1341	6263	77.6	1809	22.4	8072	7059	75.0	2354	25.0	9413
112	84.8	20	15.2	132	2391	80.9	565	19.1	2956	2503	81.1	585	18.9	3088
					1455	78.6	396	21.4	1851	1455	78.6	396	21.4	1851
					5630	94.7	314	5.3	5944	5630	94.7	314	5.3	5944
					5436	94.2	333	5.8	5769	5436	94.2	333	5.8	5769
1230	67.0	606	33.0	1836	23267	86.0	3801	14.0	27068	24497	84.8	4407	15.2	28904
					7328	93.4	515	6.6	7843	7328	93.4	515	6.6	7843
					9835	94.8	535	5.2	10370	9835	94.8	535	5.2	10370
5990	54.9	4912	45.1	10902	67026	81.1	15644	18.9	82670	73016	78.0	20556	22.0	93572[1]

30 (1.8 percent) higher than the total of 91.942 reported in Patterns of Progress and other tabulations largely because
service enrollments in the two-year colleges are included in this report.

Limitation on nonresident numbers in the institution as a whole should be effected through the planning, review and approval of facilities. Facilities expansions and improvements should be predicated on enrollment of Colorado residents and not more than the indicated percent of nonresidents.

It must be recognized that decreasing the proportion of nonresidents will reduce tuition income, which has served in the past and present to reduce the amount of tax funds required to meet approved expenditure levels.

It is also essential that the targets proposed above be programmed, at CU and CSU, progressively over a sufficient number of years to permit the orderly replacement of nonresidents with qualified resident students. Otherwise dormitory spaces may go vacant and anticipated revenues for numerous self-liquidating projects will be jeopardized. For these institutions, detailed projections showing enrollments of residents and nonresidents at undergraduate and graduate levels should be submitted to the Commission for review and approval, anticipating attainment of the guidelines set forth above within the next several years.

Extension Programming

For many decades in England and America, universities and colleges have sought to expand educational opportunity through instructional services away from the home campus in programs known within the educational establishment as "General Extension." A related but separate movement to serve the wider public was developed through the Land Grant College system, known as "Cooperative Extension" because of the linkage of local, state and federal governments in the sponsorship of the program. Where "General Extension" programs have consisted largely of formal course offerings, "Co-op Extension" programs were primarily oriented to the rural community and especially to improvements in agricultural practices. They seldom involved formal course offerings. In recent years, land-grant institutions have joined with other public colleges and universities in broadened programs of "extension" which continue the older components of Co-op Extension but include broad-scale services of adult and continuing education.

In assessing the needs for educational services in Colorado during the next decade one must ask whether extension services can be expanded to the advantage of both student and taxpayer as compared to provision of such services through on-campus programs. It is essential also that concepts of what "extension" is be opened for fresh definition and meaning. The focus should be on educational needs and on meeting them through any effective means available.

Though most of the public colleges are engaged in extension services, extension instruction in Colorado is a small proportion of total instructional effort. Data for 1969-1970 indicate that six two-year and eight four-year public institutions conducted extension programs in 46 of the state's 63 counties. In some 1600 courses in 29 fields, there were more than 27,750 course enrollments. This seemingly large number represents the equivalent of fewer than 2,000 full-time students--roughly 2.5 percent of FTE on-campus enrollment in state institutions. Three-quarters of the course enrollments were in seven areas: business, education, psychology, social sciences, fine and applied arts, English and mathematics-computer science. The reported enrollments were heavily concentrated in 12 urban counties; nearly 7,000 of the 27,750 course enrollments were in Denver County alone. Adams and W
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in Denver County alone. Adams and Western State Colleges worked in 26 and 19 counties respectively, CSU in 21, University of Colorado-Boulder in 18, UNC in 15, Colorado Springs Center in 5. SCSC, working only in Pueblo, Fremont, and El Paso Counties, offered a large program in those counties. Among the junior colleges, Colorado Mountain and Northeastern offered extensive programs in their respective service areas and Aims, Arapahoe, Lamar and Mesa offered smaller programs.

It is appropriate to acknowledge that within the state's total educational programs, extension has enjoyed less than first-class status. Extension courses are sometimes held in low repute by students because they may carry an inferior grade of credits, only a certain number of which may be applied to a desired degree; and the courses offered are limited to those which can attract a sufficient number of students to pay their own costs, at tuition rates usually lower than on-campus charges. Extension programs, with some exceptions, are viewed as sucond class by the sponsoring institutions, if one may judge by the status (in many institutions) of the extension administrator and faculty within the structure of on-campus programming and direction. In only a few cases are off-campus programs treated as part of the "real work" of the institution. Extension programs are also regarded as second class by the state--they are invariably expected to generate enough income from fees to pay direct instructional costs (or in the case of Co-op Extension to enjoy subsidy from local and federal sources) in contrast to on-campus offerings for which three-quarters of educational and general costs for Colorado resident students are subsidized by state funds.

It would appear that changing social needs, technological developments and educational viewpoints have brought about conditions in which off-campus programming can enter new areas of service and enjoy the esteem heretofore reserved for the campus program. There is a growing appreciation among the public and among the professoriate of the distinction between "education" and "schooling" and of the greater significance of the former. This developing appreciation is breaking down some of the old assumptions which, for example, seemed to insist that accreditable learning can be achieved only if the student endures a stated number of hours in the college classroom. The new "Open University" in Britain has several relatives in the "universities without walls" in the United States including the federally-sponsored program conducted by the University of Northern Colorado. The possibility of earning credit at some of the most prestigeful universities in the country through taking examinations which are not predicated on occupying any particular seat of learning is now well established through the College Level Examination Program of the College Entrance Examination Board and certain other programs.

This easing of the "lock-step" comes at a time when technological developments in electronic communications and in programmed learning devices make possible educational delivery systems previously unimaginable. The potential of television links, through cable television and direct electronic ties and through the circulation of videotapes by courier or by the U. S. Mail, is being demonstrated by special programs initiated by Colorado State University with partial support from the National Science Foundation. In the "SURGE" program at CSU and the "ACE" program at CU, videotapes are made of actual class presentations in a number of engineering-related subjects. These tapes are circulated to participating companies where qualified employees may enroll in the course for degree credit. In project CO-TIE, CSU is cooperating with a group of two-year and four-year colleges to provide instruction by videotape and telelectures in selected freshman and sophomore courses. Course credit is awarded by

the cooperating college. These efforts strongly suggest a potential for provision of broader programs of instruction in communities remote from campus centers.

The SURGE, ACE, and CO-TIE projects utilize tapes or electronic circuits which limit the audience, unlike open-circuit broadcasting and cable TV which are available to the broad audience of TV set owners. Obviously open-circuit broadcasting and cable TV have a tremendous potential in extending educational programs and services to the widest possible audience beyond the college and university campus. Possibilities of expanding extension programming through broadcast and cable television as well as through "closed circuit" approaches such as SURGE and CO-TIE, have been demonstrated in other states in which educational television stations have been operating for many years. Undoubtedly it is only a matter of time before communications linkages are provided through which educational programming can be made much more easily available in virtually all areas of Colorado.

The Commission and institutions are in agreement on the need for Commission leadership and policy direction in respect both to current extension programming and in forging new areas of off-campus service. Tighter definitions and improved reporting are necessary in order that the scope and actual costs of extension programs may be better assessed, unnecessary or costly duplication or competition can be eliminated, and policies can be developed under which needs now unmet can be incorporated into the total program. Efforts along these lines are currently in progress and will be the subject of future reporting.

Can some of the needs and demands for educational opportunity which are reflected in the enrollment projections above be met through planned expansion of off-campus services? At this time there is no evidence to support a positive or negative response to this highly important question. One may assume that many persons could fulfill their educational objectives more handily with programmed materials, with or without electronic aides, in their own homes than on a campus. Thus the development of comprehensive course sequences for off-campus use might relieve pressures which would otherwise require campus facilities. On the other hand, educational aspiration and attainment has an open-ended quality: the more one learns the more he can appreciate how little he has learned in relation to what he finds himself wanting to know. Thus more adequate and available off-campus programming may well have the effect of drawing more and more students to the campus. At the present time it appears to be sound policy to encourage the expansion of off-campus programming because of the contribution education makes to public well-being, but without a presumption that this is a way to relieve the pressure for on-campus programs.

Special Needs of the "Deprived Community"

The middle and upper class character of higher education in America has come to be rather widely recognized. Numerous studies have shown that parents of college students typically are in higher income groups, are more predominantly in professional

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and other white-collar positions, and have higher educational attainments than the general population.[13] From the standpoint of the educationally deprived, there is a cyclical process: such a man or woman lacks the educational attainments that make more challenging and financially rewarding employment possible, at the same time that the lack of such employment opportunities denies such a person the challenge to seek educational advancement. The proportion of minority youth graduating from high school is below that of whites and the proportion of minority youth entering college is below that of whites and far below the needs of the entire community for minority leadership.

It has been less well understood that a major reason for middle and upper class dominance of higher education in Colorado and in most of the country is that the college and university system has been largely a residential college system. To live away from home costs much more. A study undertaken for the Commission concerning economic and other characteristics of students attending Colorado public four-year colleges in Fall 1967 showed that only 31 percent of the total expenditures of the average student went for tuition, fees, books and other direct educational costs. The study documents the fact that expenditures by students who live at home are substantially reduced by out-of-pocket savings of board and room charges.

Until recently there was also little appreciation of the fact that residential colleges present little opportunity to the employed person (including the housewife) who cannot give up a job to go to school. The same study revealed that 22 percent of Western State College students were employed (11 percent on campus) and 28 percent of those at Adams State College were employed (18 percent on campus). At Metropolitan State College, on the other hand, 69 percent of the students were employed, 66 percent off campus; and at Southern Colorado State College 54 percent were employed, 48 percent off campus. It seems obvious that opportunity for the student to undertake additional employment or for the employed person to go to college is greatly enhanced in the urban environment.[14]

In a period when additional educational institutions and programs have been needed because of rapidly increasing numbers seeking higher education, excellent headway has been made in bringing an appropriate balance to the Colorado system by opening commuter college opportunities: SCSC (Pueblo) in 1963, Metro State (Denver) in 1965, Arapahoe Junior College (Littleton) in 1966, Aims (Greeley) in 1967, and the Community College of Denver and El Paso Community College in 1968, 1969, and 1970.

The Commission has been a strong advocate of the comprehensive community college. In an earlier policy statement it suggested the importance and the role of these institutions as follows:

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[13] See e.g., E. V. Hollis, Costs of Attending College: A Study of Student Expenditures and Sources of Income (Washington, D.C., 1957); E. Sanders and H. Palmer, The Financial Barrier to Higher Education in California (Claremont, California, 1965); James W. Trent and Leland L. Medsker, Beyond High School (San Francisco, 1968), pp. 24-26; W. Sam Adams, Economic Characteristics of Students Attending Colorado State Colleges and Universities During the Fall Term 1967 (Denver, 1969), pp. 47-48.

[14] See W. Sam Adams, pp. 156, 160.

1. The community college affords large numbers of students the opportunity for advanced schooling near home and near employment, and thus makes it possible to avoid the personal dislocations and the high costs of attending school away from home.

2. The community college affords the student an environment in which particular emphasis is placed upon helping him succeed, through counseling, identifying areas of interest and capability, overcoming deficiencies in readiness to perform successfully.

3. The community college affords the student the widest possible range of programs, and greater flexibility in moving from one program to another than most four-year colleges can provide. Thus the student who enters college without a specific educational and vocational goal, or with goals that he discovers to be in error for him, can readily change not only to other "academic" areas but to occupational programs of a wide variety of fields, length, and complexity. The community college also provides a base for the student who may wish to continue his education beyond two years.

In the light of such considerations, in May 1969 the Commission issued the following policy recommendations relating to the recruiting and enrollment of educationally and economically deprived students of all races:

> Community colleges should seek out, encourage, and assist all such interested students beyond high school age. Within a wide range of available programs there should be opportunity for all. The desire to learn is a sufficient qualification for admittance, and the serious pursuit of that desire should be a major consideration in retention.
>
> Four-year colleges and universities should seek out, encourage and assist those students who are interested in and give appropriate evidence of qualification for the programs they offer, and particularly for those programs which are unique or special at such institutions. These institutions should give special attention to the recruitment and assistance (financial and otherwise on the basis of need) of qualified students of minority races and students in the two-year colleges whose educational and vocational objectives lead them into programs which require work beyond that offered in the two-year college.

While the provision of a wide range of educational programs "where the people are" represents the most direct and effective way to expand educational opportunity, adequate programs of student financial assistance are also needed in order that economic barriers to college attendance may be reduced. Colorado has developed a multi-pronged program embracing scholarship and grant funds, support for work-study, and funding to match the federal NDEA loan program--a state program which totals more than $8 millions for the fiscal year 1971-72.

The Colorado student financial aid program has grown without the benefit of overall policy direction. Seeking to provide for coordination and systemwide planning, the Governor and Legislature in the budget documents for 1971-72 directed the Commission to formulate policies and proposals for statewide guidance, and the Legislature appropriated all state student financial aid moneys to the Commission for allocation in accordance with guidelines developed b
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accordance with guidelines developed by the Commission. With the vital participation of institution representatives, the Commission has issued guidelines for the initial year under central policy direction. It is continuing to work with the institutions to formulate specific proposals for c comprehensive state program.

The Commission believes that the state has, and that it acknowledges, an obligation to make educational opportunity available to all who demonstrate, through serious pursuit of learning, that they deserve such opportunity. It believes that special programs of encouragement and assistance must be provided to enlist the full participation in higher education of persons in segments of the population where the tradition of high school and college education is not well developed. The Commission expects to place high priority upon plans and proposals for student aid and other programs oriented to the needs of the educationally and economically deprived.

Geographic Considerations in Planning

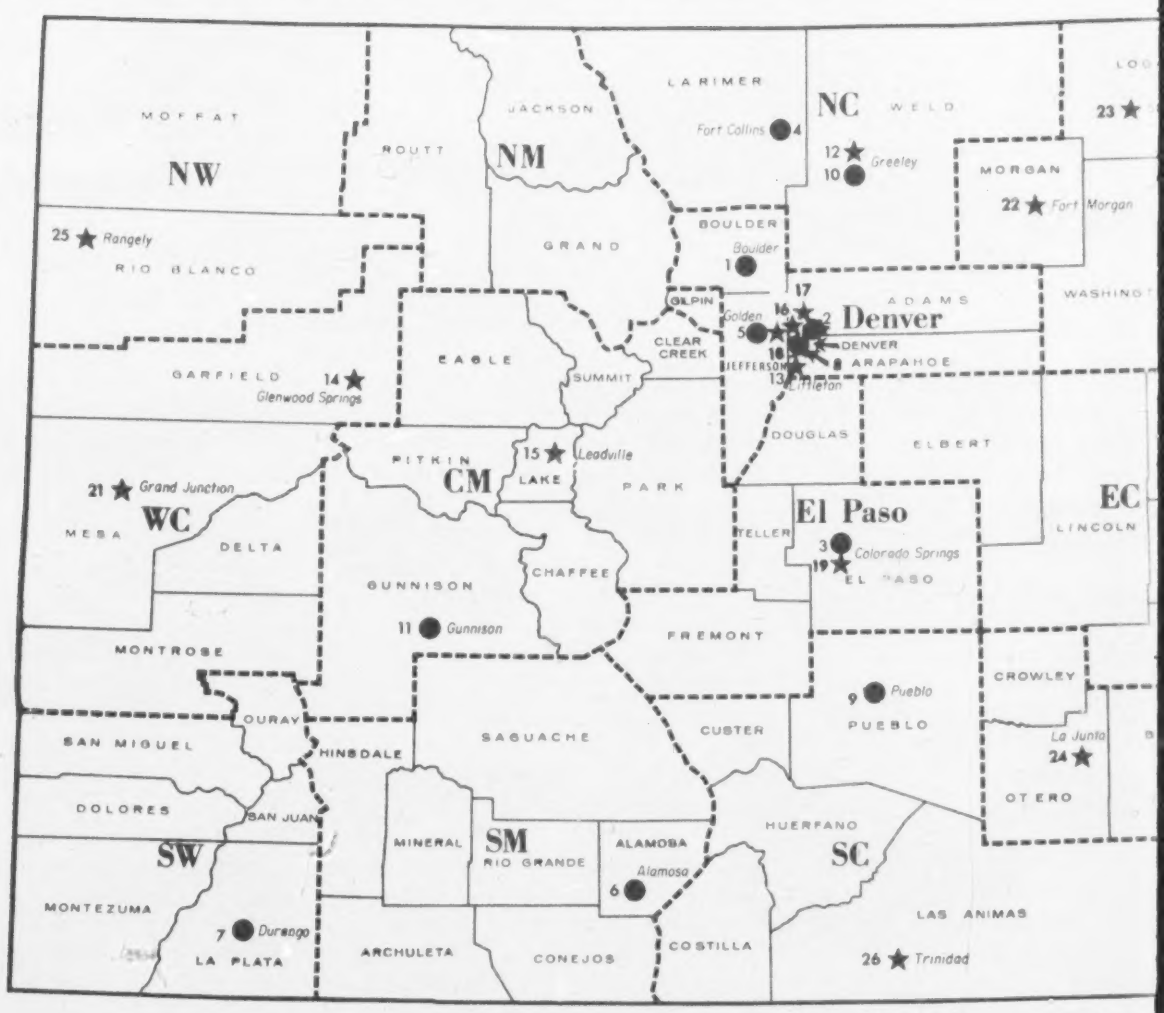
In a state having wide reaches that are sparsely settled it is not possible to locate higher education institutions within easy range of all the people. However studies of college-going show that proximity of college to population is a major factor in determining whether people go to college. It therefore is important to assess the location of institutions in relation to concentrations of population in the state. It appears, too, that proximity of a college has some impact on the attractiveness of an area to people and their industry and commerce. The desirability of diffusing population growth in Colorado is therefore an appropriate element in the consideration of location of new educational programs and institutions.

To aid in this assessment, the Commission has delineated thirteen areas which give more emphasis to the criterion of distance from college than do the twelve planning regions established by the State Planning Office for other purposes. Map 1 (following) showing locations of Colorado public institutions of higher education delineates these thirteen areas of the state. It must be emphasized that these areas are used only for purposes of analysis of location of present colleges in relation to population. There is no suggestion that a college should be located within each area. The following analysis shows, on the contrary, that some regions are so sparsely populated that there is no prospect that any public higher education institution can be located within them in the foreseeable future.

To help assess the potential demand for higher education opportunity in these areas two sets of data are provided in Table 6, following. Data in Columns 1, 2 and 3 reflect county of residence of Colorado resident students who were actually enrolled in Colorado public and private institutions in Fall 1970.[15] Comparing the numbers of

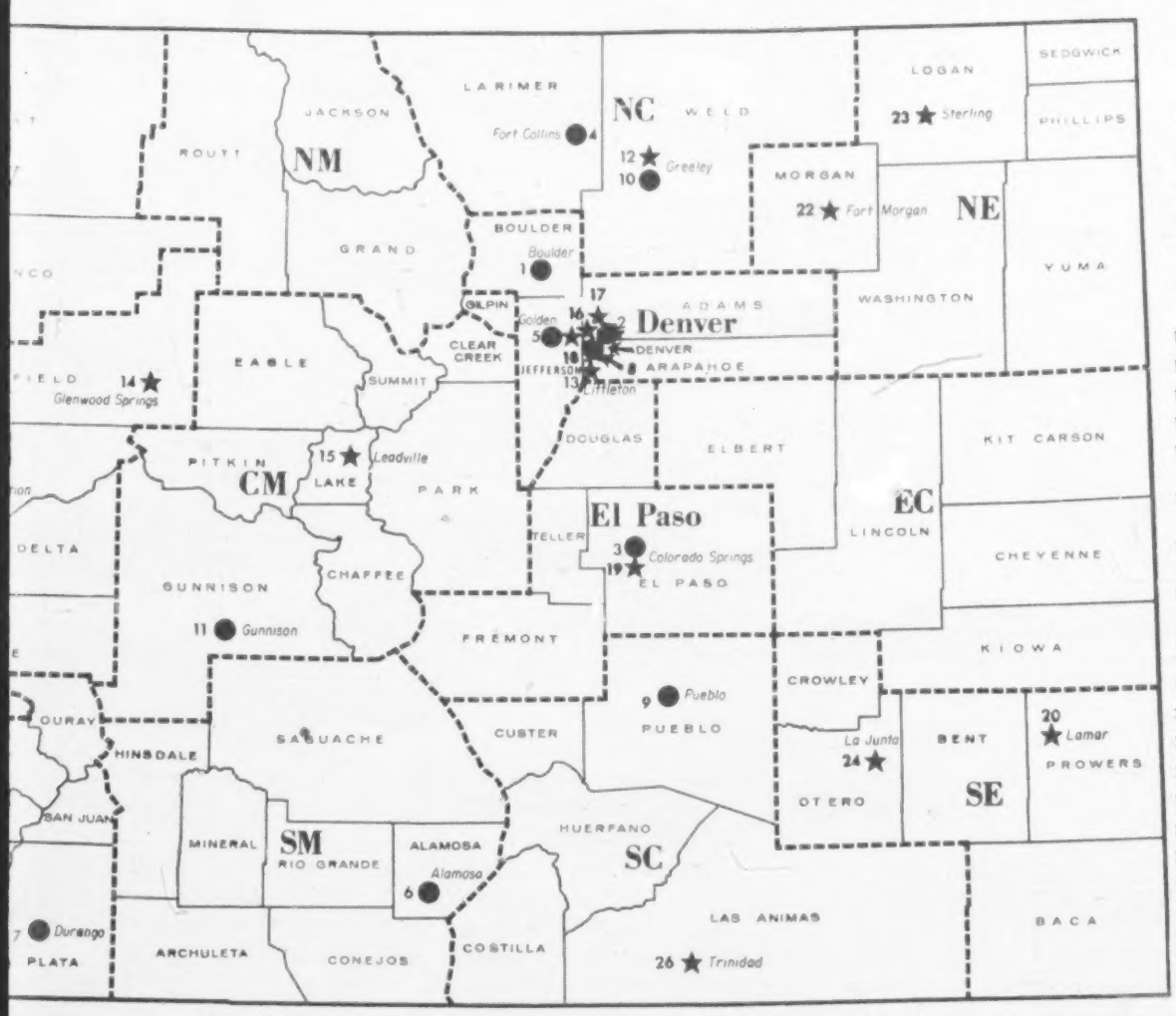
[15] Data were supplied by all institutions except Loretto Heights and Rangely Colleges and the University of Denver, for which estimates were made by the Commission based on Fall 1968 data previously supplied.

PUBLIC COLLEGES AND UNIVERSITIES IN COLOR



Prepared by State Division

BLIC COLLEGES AND UNIVERSITIES IN COLORADO



Map 1

1. University of Colorado
2. University of Colorado, Denver Center
3. University of Colorado, Colorado Springs Center
4. Colorado State University
5. Colorado School of Mines
6. Adams State College
7. Fort Lewis College
8. Metropolitan State College
9. Southern Colorado State College
10. University of Northern Colorado
11. Western State College
12. Aims College
13. Arapahoe Community College
14. Colorado Mountain College, Glenwood Springs
15. Colorado Mountain College, Leadville
16. Community College of Denver, Central
17. Community College of Denver, North
18. Community College of Denver, Red Rocks
19. El Paso Community College
20. Lamar Community College
21. Mesa College
22. Morgan County Community College
23. Northeastern Junior College
24. Otero Junior College
25. Rangely College
26. Trinidad State Junior College

● Four-year colleges and universities
★ Community junior colleges

Prepared by State Division of Public Works

SEPTEMBER 1971

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Table 6

Estimate of Demand for Higher Education Opportunity by 13 Areas of the State, Com
Area of Residence of Colorado Students and Enrollment of Colorado Resident Students in Insti

Area	1 1970 Area Residents in Colo. Colleges	2 1970 Colorado Residents in Area Colleges	3 1970 Area Residents in Area Colleges	4 Colleges/Universities In Area
Denver	44,990	37,089	31,579	CU-Boulder, CU-Den CSM, Metro, CCD, Arapahoe, DU, Loret Regis, TBC
El Paso	8,912	4,806	4,176	CU-Colo.Sprgs., El P Colorado College
North Central	9,559	22,679	8,395	Aims, CSU, UNC
South Central	6,528	6,859	4,907	Southern, Trinidad
West Central	2,990	2,218	1,211	Mesa, Colo. Mtn.-We
Northeast	2,914	1,963	1,415	Northeastern, Morgan
Southeast	2,422	1,583	1,399	Otero, Lamar
Southwest	1,684	1,330	718	Fort Lewis
South Mountain	1,378	2,504	911	Adams
Central Mountain	1,333	2,762	589	Western, Colo.Mtn.-E
East Central	708	--	--	None
Northwest	471	421	166	Rangely
North Mountain	325	--	--	None
Colorado Totals	84,214	84,214	55,466	

EXPLANATORY NOTES:

1. This table shows the area of residence of Colorado students enrolled in Colorado institutions of hig and estimated demand for higher education by 13 geographic areas in 1975 and 1980 (Columns 5 a and 1980 according to the Commission's low enrollment projection (Projection B) by applying the e going to the population (15-24) projected in each area. (These calculations are necessarily based mated by the State Planning Office in 1969, since revised population projections for counties, bas yet been released by the Planning Office.) It might be expected that if college opportunities co areas, rates of college-going in all areas would more nearly approximate the state average. Thus to express the potential demand for college opportunity within each area. (Since there is and wi mix of programs available in the several areas, and some differences in patterns of college-going expected that some areas will show above-average and some below-average college-going rates.)

2. Column 1 shows the actual number of residents from each area who were enrolled in a Colorado p education in Fall 1970.

3. Column 2 presents the actual number of Colorado students who attend college within the area (ins Column 4).

4. Column 3 shows the actual number of Area residents attending college within the area of residence 1 and 3 indicates the number of students living in the area who attend college elsewhere in the s

5. Data for Columns 1, 2 and 3 are derived from a special CCHE study in Spring 1971, not publishe

Table 6

ate of Demand for Higher Education Opportunity by 13 Areas of the State, Compared With
dence of Colorado Students and Enrollment of Colorado Resident Students in Institutions, Fall 1970

1	2	3	4	5	6
1970 Area Residents in Colo. Colleges	1970 Colorado Residents in Area Colleges	1970 Area Residents in Area Colleges	Colleges/Universities In Area	1975 Estimated Demand (27.122%)	1980 Estimated Demand (29.0%)
44,990	37,089	31,579	CU-Boulder, CU-Denver, CSM, Metro, CCD, Arapahoe, DU, Loretto, Regis, TBC	71,246	87,278
8,912	4,806	4,176	CU-Colo.Sprgs., El Paso, Colorado College	13,882	15,843
9,559	22,679	8,395	Aims, CSU, UNC	8,685	10,777
6,528	6,859	4,907	Southern, Trinidad	8,488	8,483
2,990	2,218	1,211	Mesa, Colo. Mtn.-West	6,107	6,395
2,914	1,963	1,415	Northeastern, Morgan	3,515	3,299
2,422	1,583	1,399	Otero, Lamar	3,222	3,440
1,684	1,330	718	Fort Lewis	2,198	2,071
1,378	2,504	911	Adams	2,429	2,649
1,333	2,762	589	Western, Colo.Mtn.-East	2,361	2,852
708	--	--	None	1,102	1,076
471	421	166	Rangely	756	805
325	--	--	None	702	753
84,214	84,214	55,466		124,693	145,721

e area of residence of Colorado students enrolled in Colorado institutions of higher education in Fall 1970 (Column 1) and for higher education by 13 geographic areas in 1975 and 1980 (Columns 5 and 6). Demand is estimated for 1975 g to the Commission's low enrollment projection (Projection B) by applying the expected state average rate of college- ation (15-24) projected in each area. (These calculations are necessarily based on area populations as they were esti- e Planning Office in 1969, since revised population projections for counties, based upon 1970 Census data, have not by the Planning Office.) It might be expected that if college opportunities could be made equally available in all llege-going in all areas would more nearly approximate the state average. Thus, Columns 5 and 6 may be expected ential demand for college opportunity within each area. (Since there is and will doubtless remain some variety in the vailable in the several areas, and some differences in patterns of college-going from one area to another, it is to be e areas will show above-average and some below-average college-going rates.)

e actual number of residents from each area who were enrolled in a Colorado public or private institution of higher 1970.

the actual number of Colorado students who attend college within the area (institutions in the area are listed in

e actual number of Area residents attending college within the area of residence. The difference between Columns the number of students living in the area who attend college elsewhere in the state.

1, 2 and 3 are derived from a special CCHE study in Spring 1971, not published elsewhere.

residents of the area who were in colleges located with
with the number of residents of the area who were enro
Colorado (Column 2) gives some indication of the relati
educational opportunities available in the home area.
of the North Central area (Larimer and Weld Counties)
lege attended e of the three institutions within this a
other area approached this high a ratio.

Comparison of Columns 1 and 2 reveals that the
more spaces in the institutions located within the area
whose homes are in the North Central area and who ar
in Colorado. These extra spaces are filled by residents
of other states or countries. In fact, in Fall 1970 the
Central area enrolled 9,322 residents of the five Denve
to 8,395 residents of Larimer and Weld Counties. The
and Central Mountain areas have similar but much small

Comparison of Columns 1 and 3 indicates that in
El Paso areas lack by a considerable margin the student
to accommodate current enrollment demands generated w
with substantial deficits include West Central, Northeas
probably reflecting the presence of only one type of ins
In assessing the needs for expanded opportunities, the c
facilities within the area in relation to numbers of stude
rolled in Colorado institutions is one factor to be taken

In the second assessment of demand (Columns 5 a
respectively), the projected 1975 and 1980 statewide ra
in the Commission's low projection have been applied to
15-24 in each area. This measure simply distributes ac
area the statewide average numbers of Colorado resident
this approach is that if each area had an average "mix"
might be expected that its residents would enroll in the
dance with the statewide college-going rate.

Table 6 makes apparent the compression of popul
of the mountain face and particularly in the five-county
Statistical Area. Demand within the Denver SMSA repr
total estimated demand of Colorado residents for college
tial in the five Denver SMSA counties is roughly five ti
demand generator (El Paso county) and well over one hu
populous area. The great expanse of the less heavily p
the limited size of the Denver Area make it difficult to
of Colorado's enrollments are generated in the smallest

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[16] Of course it is possible that an area having an
lack sufficient places in programs of certain typ
for example, may need additional community co

o were in colleges located within the same area (Column 3)
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es some indication of the relative attractiveness of the mix of
s available in the home area. Nearly 9 of every 10 residents
ea (Larimer and Weld Counties) who were in any Colorado col-
e three institutions within this area--Aims, UNC, or CSU. No
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olumns 1 and 2 reveals that the North Central area has many
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North Central area and who are enrolled in college anywhere
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322 residents of the five Denver SMSA counties as compared
rimer and Weld Counties. The South Central, South Mountain
reas have similar but much smaller "surpluses."[16]

olumns 1 and 3 indicates that institutions in the Denver and
considerable margin the student spaces that would be needed
enrollment demands generated within those areas. Other areas
include West Central, Northeast, Southeast, and Southwest,
presence of only one type of institution in each of these areas.
r expanded opportunities, the condition of deficit or surplus of
a in relation to numbers of students from the area who are en-
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projection have been applied to the projected population aged
his measure simply distributes according to population in each
ge numbers of Colorado resident students. The rationale for
each area had an average "mix" of educational programs it
its residents would enroll in these programs roughly in accor-
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pparent the compression of population in the band to the east
d particularly in the five-county Denver Standard Metropolitan
nd within the Denver SMSA represents some 60 percent of the
of Colorado residents for college opportunity. Enrollment poten-
SMSA counties is roughly five times that of the next-largest
so county) and well over one hundred times that of the least
at expanse of the less heavily populated areas contrasted with
Denver Area make it difficult to grasp the fact that three-fifths
s are generated in the smallest of the 13 areas.

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possible that an area having an overall "surplus" of spaces may
places in programs of certain types. The North Central area,
ay need additional community college programs.

Chapter 2

ACCOMMODATING STUDENTS IN THE 1970'S

In the fall of each year a number of men and women--young, middle-aged, of more advanced years--complete the process of registration in the colleges and universities in the state. For many of these individuals the action is the culmination of carefully laid plans and much preparation. For others it is one option of several that have been considered. For not a few it is the result of last-minute thoughts or impulses. Upon the completion of the registration process the institution knows how many students it will have that fall and on the basis of past experience, about how many it will have during the rest of the academic year. Similarly, a state agency is able at that point to indicate with more precision how many students there will be in the system that year. In any institution prior to the completion of registration, the history of past estimates demonstrates, there may be rather wide swings of actual enrollment above or below advance estimates.

These facts have two important implications for state policy and plans for higher education:

1. The projection of future enrollments is an inexact "science"; it is in part the product of past experience but in a major way it is the result of assumptions relating to the factors discussed in Chapter 1 and other factors still to be discussed--of future birthrates, of growth of industry and resulting inmigration of people, of public commitment to equality of opportunity through student aid and other programs, of receptivity to or limitations upon nonresident students, and others. Past experience is, moreover, an increasingly inadequate guide to enrollment prediction for each year beyond the year immediately ahead.

2. The estimation of future enrollments in the total system of higher education will remain an inexact science unless there is change in public attitudes toward educational opportunity that could properly be called radical. It is quite possible to adopt and hold to an upper limit of numbers in the colleges through control of admission. To do this in a single institution or in several, while leaving a range of opportunities open elsewhere, is to maintain an open system with stated conditions of access. To provide a stated number of places in the system as a whole is to do a very different thing: it is to say that in the judgment of the state, there is a limit

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to the amount of education its citizens need as individual human beings and to the amount its public and private enterprise need for their most effective and efficient level of operation.

The Colorado Commission on Higher Education believes the public should and will insist that opportunity for continued education will be left open in the system as a whole, and in consequence that the system will continue to change and, in the overall, to grow in response to increasing population and changing social and individual needs. How much higher education grows and in what programs and institutions will depend upon the kinds of considerations that have been discussed in the opening chapter and also on the capabilities of the present system of institutions. There may be excellent reasons--educational and institutional, community-related, or system-wide--that particular institutions should not grow in size beyond a certain number.

In planning for the future of the total higher education system it is necessary to consider early in the process the capabilities of the present institutions and the portions of total needs that they can be expected to supply. Thereafter, on the basis of specific policies and assumptions, plans can be made for modifications of the present system.

What is the "Optimum Size"?

For a college or university, "optimum size" is that number at which maximum effectiveness as an educational unit is achieved within the limits of available or projected financial, physical, programmatic and staff facilities.[1] Given the opportunity to establish planning targets before institutions are "too big," optimum size should be the ultimate size planned for. A concept of optimum or ultimate size must be subject to review and modification on the basis of new evidence. However because of the applications to which this particular idea is put in acquiring land, establishing the range of the academic program, planning and constructing buildings, and providing

[1]Definition adapted from Institutional Size and Capacity, A Report to the Illinois Board of Higher Education, Master Plan Committee L, 1966.

personal and financial resources, modifications in the planned size concept create large waves that travel to many shores. Fortunate is the institution that can be planned from the beginning with a size concept that is consistent. For a total state system, too, more effective services can be provided and wasteful moves avoided if present institutions are planned as to size as well as to program.

The determination of size concepts for any institution should be the product of a deliberate master planning process. Major elements pertaining to the institution which should be assessed include:

1. Educational (programmatic).--Considerations of number, variety and levels of academic programs to be offered; numbers of students required to justify numbers of faculty implied by such programs; nature of the institution as a commuter or residential college. From the standpoint of "college atmosphere" and of desirable student-faculty and student-faculty-administration interaction, when are the desirable limits of size reached?

2. Managerial.--Considerations of efficiency in provision and utilization of physical plant and of "overhead" personnel for general administration and academic support. Are there "economies of scale" in the educational enterprise? "Diseconomies"? At what point is efficiency maximized in relation to academic effectiveness?

3. Geographic.--Considerations pertaining to the available site and to the community in which the college is located. What is the impact of the institution's size upon the community in respect to physical elements such as commercial facilities, streets, and utilities but also in respect to the more subjective components of a "style of life"? How much land is required by all of the academic and support functions that accompany higher education enterprise today--residential (if relevant), administrative service, and parking as well as basic academic?

Apart from factors inherent within the institution, such as the above, are considerations relating to the system of higher education as a whole. The state may wish to place enrollment constraints on institutions as a matter of policy, in the belief that education of quality is promoted in institutions that do not grow beyond some particular size; or in order to disperse college programs and facilities through the state rather than concentrate them in a limited number of places; or in order to provide new types of institutions in lieu of promoting growth in the older colleges.

For most of the history of higher education, colleges and universities "just grew." The earliest statewide effort to establish size guidelines for institutional and systemwide planning was made in the California Master Plan of 1960. Minimum, optimum, and maximum numbers of full-time students were recommended as follows:

Type of Institution	Minimum	Optimum	Maximum
Junior Colleges	400	3,500	6,000
State Colleges			
In densely populated areas	5,000	10,000	20,000
Outside metropolitan centers	3,000	8,000	12,000
University campuses	5,000	12,500	27,500

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Optimum	Maximum
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10,000	20,000
8,000	12,000
12,500	27,500

The Coordinating Council for Higher Education in California in 1964 modified some of these numbers and relaxed their apparent rigidity. It omitted reference to "optimum" size:[2]

	Full-Time Students	
	Minimum	Maximum
Junior Colleges (These numbers could be changed if either isolation or density of population warrant.)	900	5,000- 7,500
State Colleges		
In densely populated areas	5,000	17,500-20,000
Outside such areas	3,000	9,500-12,000
University campuses	5,000	25,000-27,500

A California study in 1964 stated that economies of operation "begin when a range of between 3,000 and 5,000 students are being served by a state college." For a university the report indicated a range of 5,000 to 7,000 students.[3]

Subsequently several other state coordinating bodies have studied questions relating to size and in some cases have established size planning guidelines. A task force drawn primarily from colleges and universities appointed by the coordinating board in Illinois (1966) declined to state optimum sizes for institutions but advised that new four-year commuter colleges should be established only if they would attain 2,500 FTE within four years and 5,000 FTE within eight.[4] Concepts shaping the provisional master plan in Tennessee (1969) call for a minimum size for state colleges of 3,000; they call for a maximum size for the University of Tennessee (Nashville) of 27,000 to 28,000, and for Memphis State University of 25,000. The Texas master plan (1969) proposed no minimum or maximum size for state colleges but its recommendation for the establishment of six new baccalaureate institutions assured that each of the six would enroll at least 2,000 (headcount) students by the third year of operation. In the third year the median size of these six colleges would be 3,900. For universities, no general size criteria were proposed, but limitations were established for the University of Texas (Austin) at 35,000 and for the University of Houston at 30,000. Studies in Missouri and Michigan are reported which suggest a minimum of 3,000 FTE for four-year colleges.[5] The Coordinating Council for Higher Education in Wisconsin has proposed a limitation of the University at Madison to 42,000.

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[2]California State Department of Education, A Master Plan for Higher Education in California, 1960-1975 (Sacramento, 1960, pp. 111-112; CCHE, The Master Plan Five Years Later (No. 1024, March 1966), p. 16.

[3]Cal nia's Need for Additional Centers of Public Higher Education, December 1964, p. 13.

[4]Master Plan Committee L, op. cit., p.2.

[5]Richard Browne, Background Papers Prepared for the Advisory Committee to the State Council of Higher Education for Virginia (1969).

In the two-year sector, California's present guideline of a minimum of 900 full-time students is comparable to that of Texas (1,000 FTE by the fifth year). It is substantially larger than the minimum figure of 500 in Minnesota, but both California and Texas coordinating boards have recognized the need for exceptions to their larger numbers, in order that relatively sparsely settled areas might be accommodated. In its recent report, The Open-Door Colleges, Policies for Community Colleges, the Carnegie Commission on Higher Education concluded "that, for the sake of quality of program, economy of operation, and easy availability, state plans should provide for community colleges generally ranging in size from about 2,000 to 5,000 daytime students, except in sparsely populated areas where institutions may have to be somewhat smaller, and in very large cities, where they may have to be somewhat larger" (page 29). The Commission is unfortunately imprecise in saying whether it refers to full-time or total numbers of students.

It seems apparent that, though the number of students required to mount an acceptable range of two-year or baccalaureate programs on a reasonably efficient basis can be calculated, the present state of knowledge of educational outcomes and of cost elements, together with the large number of variables in program, locational circumstances and other factors, does not permit the derivation of authoritative guidelines to optimum or maximum size. Maximum sizes set for certain institutions in Tennessee, Texas, and Wisconsin, and in California as well, appear to reflect the sizes the institutions have already attained rather than objective criteria.

It is of interest to note that 42 U.S. universities which are members of the prestigious Association of American Universities range in size from 1,520 at the California Institute of Technology to 58,304 at the University of Minnesota; and that the median of the group falls between the University of Colorado (18,280) and Columbia University (main division; 17,459)--all numbers being Fall 1968 headcount for the main campus. Moreover of the largest 21, 17 are public institutions while of the smallest 21, 18 are private. The smallest public institution in the group enrolled 15,601 students in Fall 1968 (University of North Carolina).

Though it is not possible to prove with objective facts that any particular number represents an "optimum" for institutions of a type, or even for an individual institution, there remains strong reason to establish size concepts for all institutions. When a college plans its programs, facilities, staffing, and longrange development according to a size concept it can avoid costly changes, whether in steam lines or in library additions, and thus achieve greater quality with resources which will always be limited in relation to need. An institution can, as it were, make a size concept its optimum through effective planning and managing. Moreover, planning for a total system which will meet the needs of the people of the state can proceed only on the basis of understandings of how large particular institutions will be. Thus, though particular size concepts cannot be objectively proven "right," it remains advantageous both to the state system as a whole and to each institution individually that size targets be established for planning purposes on the basis of the best evidence and judgment that can be mustered.

While a size planning concept should represent the best possible decision as to ultimate size, the number should remain subject to change in the face of evidence that a decision to change will contribute to educational effectiveness and promote wise allocation of resources, for the institution and for the system as a whole, and that it will do so to greater advantage than

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Maximum sizes for planning

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number of students required to mount an
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t the University of Minnesota; and that the
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with objective facts that any particular num-
s of a type, or even for an individual insti-
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uld represent the best possible decision as to
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and for the system as a whole, and that it

will do so to greater advantage than the alternatives. Moreover institutions should be encouraged, within any concept of size, to find ways to use facilities with greater efficiency. This means that within a concept of maximum size for facilities planning purposes, institutions may be encouraged to enroll additional students so long as it is clear that doing so is the result of operating efficiencies and does not of itself make a case for additional space.

Size Concepts for Planning

Many but not all of the Colorado institutions have in fact been building their campuses against size concepts which, though not viewed as ultimates, have been established with deliberation.

A target size for planning does not mean that any new program or building approved for a campus will immediately, or perhaps ever, be developed for that total number. The target size means that as growth occurs and additional facilities can be developed, they will be so located on the campus and so designed that if and when the campus reaches the planned ultimate, each facility will relate to others in a coherent total pattern. Utilities will be sized and roads and walkways will be located in reference to the planned maximum. However at no point will programs or buildings be provided for an enrollment larger than can be fully justified at the time such additions are planned.

In preparation for determinations relating to a statewide higher education plan, the Commission in May 1968 requested each institution or governing board to advise whether it had identified an optimum size for on-campus instruction; what considerations had entered into that determination if made, or what factors would point to particular enrollment targets if no such decision had been made.

Subsequently, in presenting its preliminary proposals in December 1969 (Planning for the 1970's--Preliminary Report), the Commission proposed enrollment limitations for planning purposes. It based its proposals both upon responses to the questions it had addressed to the colleges and upon other official documents filed with the Commission such as campus master plans and program plans for major buildings such as libraries and student centers. However the Commission emphasized that it anticipated opportunities to review the suggested numbers with the institutions and governing boards. There has been a great deal of discussion of these numbers during the interim. In most cases, on the basis of plans which have been reviewed by the governing boards and Commission specific size targets have been agreed upon. In several cases the Commission has left this matter open for determination at the conclusion of studies still in progress.

Size concepts for planning are proposed by the Commission in the following paragraphs; the numbers are summarized in Table 7 (following). It should be made clear that the Commission's size concepts do not include a prediction that institutions will reach their proposed ultimate size at any particular date, for example 1980. Estimation of what future enrollments in each institution will be as of certain future dates will be discussed further below.

Maximum sizes for planning purposes are given in "headcount students" and in

Table 7
Ultimate Size Targets, Colorado Public Institutions

	Fall 1970 Headcount (Actual)	Size Targets	
		Fall Headcount	Daytime FTE
CSU	16,324	23,500	23,500
CU-Boulder	21,482	22,500	20,500[1]
CU-Colo. Sprgs.	2,312	12,500	8,000[2]
CU-Denver	6,987	16,000	5,600[3]
CSM	1,727	3,000	3,300
Ft. Lewis	2,122	4,000	4,000[4]
Adams	2,995	4,200	3,780
Metro	7,212	25,000	16,000
Southern	6,130	11,000	10,000
UNC	10,547	12,900	12,000
Western	3,144	3,300	3,300
Arapahoe	2,155	4,215	2,625
CCD-Central	608	10,000	5,000
CCD-North	3,133	10,000	6,000
CCD-West	1,770	10,000	6,000
CCD Total	(5,511)	(30,000)	(17,000)
El Paso	2,963	10,000	6,000
Lamar	587	1,250	1,250
Otero	723	1,570	1,100
Trinidad	1,559	2,500	2,000
Aims	2,209	7,000	4,500[5]
Colo. Mtn.-East	286	800	750
Colo. Mtn.-West	386	1,500	1,450
Mesa	2,413	5,400	3,500
Morgan	458	1,000	800
Northeastern	1,862	3,000	2,400
Rangely	400	1,000	900
Total	102,494		

[1]Subject to further review with the University of Colorado.
[2]Tentative; to be determined in planning in 1971-72.
[3]Tentative; subject to further review with the University of Colorado.
[4]Master planning may provide for a final phase to 5,000.
[5]Master planning may provide for a final phase to 6,000.

Table 7
Size Targets, Colorado Public Institutions

1970 Headcount (Actual)	Size Targets	
	Fall Headcount	Daytime FTE
16,324	23,500	23,500
21,482	22,500	20,500[1]
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7,212	25,000	16,000
6,130	11,000	10,000
10,547	12,900	12,000
3,144	3,300	3,300
2,155	4,215	2,625
608	10,000	5,000
3,133	10,000	6,000
1,770	10,000	6,000
(5,511)	(30,000)	(17,000)
2,963	10,000	6,000
587	1,250	1,250
723	1,570	1,100
1,559	2,500	2,000
2,209	7,000	4,500[5]
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102,494		

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rmined in planning in 1971-72.
further review with the University of Colorado.
provide for a final phase to 5,000.
provide for a final phase to 6,000.

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"daytime FTE" (full-time equivalent) students. It is essential that several definitions of "student" be clear. Headcount numbers represent the different individuals who are enrolled, full-time or part-time, in day and evening programs. On the other hand, one "FTE Student" is represented by the amount of instruction undertaken by one student in a normal program of 15 credits in a given term. Needed classroom and laboratory facilities are normally calculated according to daytime FTE students since students enrolled at night may be accommodated in facilities provided for the daytime program (except where, as at the Denver Center, evening enrollments are larger in relation to the number of evening hours than daytime enrollments are to daytime hours available). Some categories of administrative space should have a relation to headcount numbers (for example, for admissions personnel, counselors, and some others) as well as to daytime FTE. Faculty offices are needed for faculty whether they teach by day or night.

Colorado State University

Until recently CSU had not adopted a size target for planning purposes, assuming more or less continuous growth. The Student Center program plan of 1966 contemplated space for 20,000 FTE students. Subsequent to issuance of the Preliminary Report in December 1969, and in the light of master planning in which the University has been engaged, the University and Commission have agreed upon an ultimate size for facilities planning purposes of 23,500 students (headcount and day FTE). (As this report is published the University has proposed reducing this number to 20,000.)

Colorado School of Mines

For many years CSM has programmed new facilities and its land acquisition policies on a plan of 2,000 students. Following studies in 1968-69 which indicated that space utilization can be improved in some areas, the Trustees of the School adopted a target of 3,000 (headcount). The Commission concurs with this enrollment as an ultimate size for planning.

University of Colorado and Centers

In the 18 months since publication of the preliminary edition of this report there has been a great deal of consideration, both internal to the University and by the University and Commission together, of appropriate size concepts for the Boulder campus and for the Centers at Denver and Colorado Springs.

In a complex university such as CU and CSU, size must be influenced substantially by the number and type of professional schools as well as by the mission of the university in graduate education. For example, at the University in Boulder are professional programs in law, architecture, pharmacy, and journalism and a number of doctoral programs which are not offered in other public institutions, as well as several professional and a substantial number of doctoral programs which, though not unique in the state, have different emphases than those available elsewhere. Institutional size should be determined as the product of assessment of long-term needs and demands in these special fields as well as in those more general instructional areas in which students prepare for the advanced programs or for other occupational and general

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education. This process of overall planning has been in progress at the University and it should be completed, in full interaction with the Commission for its perceptions of statewide needs and plans, before specific size concepts are established.

It seems clear that the growth of the University at Boulder will be slower in the future than it has been in the past decade. The numbers included in Table 7 are roughly consistent with Commission proposals in the preliminary edition of this report and with current institutional planning relating to 1980. These numbers should be treated as tentative pending completion and approval of institution master planning by the Commission and the Governor.

Planning for the Centers at Denver and Colorado Springs is also in progress. In each case determination of an ultimate size will be a needed element in planning for instructional program development as well as for facilities. All such planning must begin with a state determination of the basic nature and role of these two institutions, followed by master planning to give effect to those roles.

For the Denver Center a role definition has been proposed by the Regents and approved by the Commission; this is further discussed in Chapter 4. Master planning is under way. Expectations of future enrollments have been incorporated in plans for the Auraria Higher Education Center, of which the Denver Center will be an integral part. These numbers have been included in Table 7, but here as in Boulder the numbers should be considered tentative until master planning has been completed and reviewed.

A role statement for the Colorado Springs Center has been developed in general outline by the Commission, and the University and Commission are engaged in spelling out the role with reference to specific programs, as this report is written. Again, ultimate size should be a product of this process of master planning. The numbers in Table 7 exceed by about 25 percent the numbers in Alfred Baxter's high estimate of enrollments for the institution as of 1980. Table 7 numbers should be regarded as an initial approximation, to be modified or affirmed in the review and planning now in progress.

Adams State College

A campus master plan in 1967 established the maximum enrollment for Adams State College at "approximately 4,000" students, with provision for 5,000 if a vocational center function were added to the role of this College. Establishment of an Area Vocational School seventeen miles away at Monte Vista in 1969 makes it appropriate to assume that any occupational programs at Adams State College will be limited in scope and enrollment. The Commission proposed an ultimate size of 4,200 students, equating to some 3,780 daytime FTE students, and the College and Trustees concur in these numbers.

Fort Lewis College

An initial plan for Fort Lewis College prepared in 1962 was based on 5,000 students, though this was not necessarily regarded as a maximum number. The

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Commission, administration, and governing board have agreed on an ultimate size for facility planning of 4,000 headcount (and daytime FTE) students, with provisions made in the campus master plan for a possible final stage of development to 5,000 daytime FTE. If the College grows to an enrollment of 3,500 and desires at that time to expand beyond the 4,000 number now envisioned, the Commission would consider approval of the final stage of development, to 5,000.

Metropolitan State College

All of the planning for the College has assumed an ultimate size of 20,000 FTE students (25,000 headcount) in day and evening programs, representing 16,000 daytime FTE. Actual enrollments in the first five years of operation have closely followed those projected in the planning document submitted by the Trustees to the Governor and Legislature in 1963. The Commission has affirmed these consistent targets.

Southern Colorado State College

The College was master planned in 1967 on a concept of 10,000 FTE students. The Commission and the Trustees are in agreement on this enrollment.

University of Northern Colorado

With assistance of Frank L. Hope and Associates, UNC prepared a master plan in 1965-66 based on a target enrollment of 10,000 FTE, though this was not necessarily viewed as a maximum for the institution. The new library building was programmed for 10,000 FTE. Following review of available spaces and lands, the University and Trustees requested CCHE approval of 12,500 daytime FTE as the ultimate planned size, advising that the Library will be adequate for this number when fully dedicated to library use. The Commission has approved ultimate size at 12,000 daytime FTE, representing an estimated 12,900 headcount students, and the institution and Trustees have accepted these numbers.

Western State College

During 1970 the College, in revising its master plan, concluded that it had virtually reached its optimum size considering the nature of its program, its educational goals, and the size of the community in which it is located. The Commission concurs in the numbers recommended by the College and Trustees, 3,300 fall headcount equating to the same number of day FTE students.

Two-Year Colleges

Aims College

The master plan is based on 4,500 daytime FTE, with provision for a final phase of development to accommodate 5,000 daytime FTE, subject to later agreements

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among the boards concerned including the Commission.

Arapahoe Community College

Program plan for the total college facilities established the maximum of 2,625 FTE daytime students which, with evening, summer, and off-campus students is expected to represent about 7,500 individuals.

Colorado Mountain College

In the College report to the Commission in Fall 1968, an upper limit of 2,000-3,000 FTE for each campus was suggested. Establishment of more realistic enrollment targets has been accomplished in current master planning now in progress. The numbers in Table 7 are those set forth in the new master plan.

Community College of Denver

The College has proposed planning for ultimate size of 6,000 daytime FTE at its North and West campuses and 5,000 daytime FTE for the Central Campus, which will be part of the Auraria Higher Education Center. The Commission has concurred in these numbers.

El Paso Community College

No definite enrollment target has been established for this institution by the College or State Board. The numbers in Table 7 are those the Commission deems appropriate for a metropolitan area community college and are similar to those established for the Community College of Denver.

Fort Morgan Community College

The College, BCCOE, and Commission are in agreement on an ultimate size of 800 daytime FTE (1,000 headcount students) for facility planning.

Lamar Community College

The College administration has indicated that with minor adjustments, 1,250 daytime FTE students can be accommodated in present facilities. The Commission has concurred in this number as a maximum for facility planning purposes.

Mesa College

In 1960 a College plan projected development to an enrollment of 2,500 day students. As the building plans formulated in 1960 are realized, the College proposes

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to revise its master plan, envisioning a campus which may accommodate a maximum of some 3,500 daytime FTE students. This number has been adopted by the Commission. However the future development of this College is under review in relation to planning for educational needs in the Grand Junction area (see Chapter 3).

Northeastern Junior College

Master Plan (1966) was based on a target enrollment of 3,000. The Student Center which opened in 1968 was programmed for 3,500 students. The numbers proposed by the Commission, equating to 2,400 daytime FTE, are concurred in by the College and the State Board for Community Colleges and Occupational Education.

Otero Junior College

The College master plan (1964) was based on a target of 1,100 daytime FTE students, to which the College continues to subscribe. BCCOE and CCHE concur.

Rangely College

The State Board concurs that an ultimate size of 900 daytime FTE proposed by the Commission is reasonable for planning purposes.

Trinidad State Junior College

The College master plan (1967) envisioned an ultimate 2,900 students with a "first phase" of 2,200 students. The College now proposes 2,000 daytime FTE as an appropriate ultimate size, and the State Board and Commission have concurred.

Projections of Institutional Enrollments

When size targets for planning were proposed in the preliminary edition of this report in December 1969, it appeared that the University of Colorado at Boulder, Colorado State University and the University of Northern Colorado would reach or surpass these proposed limitations by 1975 and that Adams and Western State Colleges would do so by 1980.

Soon thereafter, Western State in the course of updating its master plan concluded that it had already become as large as it should plan to be, in consideration primarily of the size of the community of Gunnison and certain essential services available there. CU, CSU and UNC also undertook prompt review of earlier enrollment projections and with reference to ultimate size concepts, revised downward the projected growth for the next several years. In the course of the budget review process for 1971-72, the Governor proposed limitations on size at these three institutions and in the appropriation measure the Legislature adopted specific limitations for the 1971-72 year.

Cutbacks in institution-CCHE estimates of previously expected enrollment on these three campuses amount to some 4,500 students in 1975 and nearly 12,900 in 1980. Any such reduction must, it seems evident, also have a major impact upon expected enrollments elsewhere in the higher education system.

The Commission has not undertaken to plan for specific redirection of students within the total higher education system. It hopes this report will be an important contribution to public consideration and debate as to how much expansion in the higher education system the state should provide, and where and in what types of programs it should provide it. In the chapters which follow as well as in the foregoing pages, recommendations of the Commission are advanced. The Commission will continue in the future its planning in conjunction with institutions and governing boards and with the appropriate executive and legislative officials and bodies, and will make further recommendations for strengthening the higher education resource of the state.

Estimates of future demand for higher education opportunity have been presented in Chapter 1 with stated assumptions about nonresidents and about the tendency of Colorado residents to go to college, resulting in a "high" and "low" projection. The Commission's earlier "status quo" projections, developed in 1969 on the basis of past growth trends institution-by-institution, were compared with these demand Projections A and B; generally the institutional projections were slightly above the low projection B, with an increasing disparity as the low projection tended to level off at the end of the decade.

In light of the marked downward revision in growth estimates at Boulder, CSU, and UNC, the Commission has modified the "status quo" projections of 1969 to take account of these changes. Table 8 presents the June 1971 revised projection which adjusts for the modifications at Boulder, CSU and UNC, and for enrollment experience since the earlier projections were made.[6] With one exception Table 8, it must be emphasized, does not attempt to restore elsewhere within the system of higher education the numbers by which the earlier projections for Boulder, CSU and UNC have been reduced. The exception relates to the University of Colorado Centers at Colorado Springs and Denver, for which the 1969 projections published by the Commission were held substantially below the numbers which at that time the University was projecting for 1975 and 1980. In Table 8 the Revised June 1971 projection for the Denver Center presents the numbers which have been the basis for CUDC planning within the Auraria Higher Education Center, and the numbers for Colorado Springs anticipate a substantially increased rate of growth as the role and direction for this institution are clarified as they are expected to be in the course of the current year.

Primarily because the June 1971 revised projection reduces the Boulder, Fort Collins, and Greeley campuses by nearly 13,000 students below what had earlier been projected for 1980, and enrollment estimates for the University Centers were increased by some 5,000 students without further adjustments to restore the numbers reduced in the universities, this revised projection of public institution enrollments for 1980 is

Enrollments, Colo

	(A
CSU	1
CU-Boulder	2
CU-Colo. Sprgs.	
CU-Denver	
CSM	
Subtotal	(4
Ft. Lewis	
Adams	
Metro	
Southern	
UNC	1
Western	
Subtotal	(3
Arapahoe	
CCD-Central	
CCD-North	
CCD-West	
CCD Total	
El Paso	
Lamar	
Otero	
Trinidad	
Subtotal	(1
Aims	
Colo. Mtn.-East	
Colo. Mtn.-West	
Mesa	
Morgan	
Northeastern	
Rangely	
Subtotal	(
Total	10

[6]This experience warrants an expectation of more rapid growth at Fort Lewis and at El Paso, Aims, and Morgan Community Colleges and a slower rate of growth at Metro State, Arapahoe, Trinidad, Colorado Mountain, and Northeastern.

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Table 8
Enrollments, Colorado Public Institutions, Fall 1970 Actual and Fall 1975 and 1980 Estimated Headcount

	1970	Patterns of Progress (1969)		Revised, June 1971	
	(Actual)	1975	1980	1975	1980
CSU	16,324	20,535	25,591	18,150	20,180
CU-Boulder	21,482	23,357	27,223	21,795	22,000
CU-Colo. Sprgs.	2,312	2,930	3,447	3,500	5,000
CU-Denver	6,987	7,762	9,063	9,400	13,000
CSM	1,727	2,117	2,702	2,159	2,578
Subtotal	(48,832)	(56,701)	(68,026)	(55,004)	(62,758)
Ft. Lewis	2,122	2,678	3,780	3,075	4,037
Adams	2,995	3,850	4,200	3,850	4,200
Metro	7,212	15,137	23,280	12,600	19,015
Southern	6,130	8,350	10,000	8,350	10,000
UNC	10,547	12,396	15,000	11,875	12,750
Western	3,144	3,500	4,000	3,300	3,300
Subtotal	(32,150)	(45,911)	(60,260)	(43,050)	(53,302)
Arapahoe	2,155	3,968	4,215	2,884	4,031
CCD-Central	608				
CCD-North	3,133				
CCD-West	1,770				
CCD Total	5,511	14,108	17,784	14,108	17,784
El Paso	2,963	4,182	5,490	5,228	6,863
Lamar	587	758	946	758	946
Otero	723	1,231	1,497	1,268	1,544
Trinidad	1,559	1,873	2,068	1,607	1,737
Subtotal	(13,498)	(26,120)	(32,000)	(25,853)	(32,905)
Aims	2,209	3,671	4,686	3,800	4,850
Colo. Mtn.-East	286				
Colo. Mtn.-West	386	1,709	2,100	1,185	1,441
Mesa	2,413	3,975	4,600	3,975	4,600
Morgan	458	750	1,000	750	1,000
Northeastern	1,862	2,616	2,952	2,063	2,330
Rangely	400	731	1,049	731	1,021
Subtotal	(8,014)	(13,452)	(16,387)	(12,504)	(15,233)
Total	102,494	142,184	176,673	136,411	164,198

roughly 12,500 below the 176,673 projected in the first edition of this report. Adjusting this estimate to include the private institutions, it reflects a total level of institutional capacity in Colorado as of 1980 which is some 10 percent below the high estimate of demand in Chapter 1 (Projection A) and some 3 percent above the low (Projection B). Which among the several sets of estimates that have been presented will most nearly reflect the experience of the future will depend upon the policies and programs to be effectuated in the future. Further proposals of the Commission which would affect enrollments will be set forth in Chapters 3 and 4, and the proposals will be summarized and financial considerations will be discussed in Chapter 6.

Chapter 3

PLANNING FOR GROWTH: INSTITUTIONS AND THEIR PROGRAMS

In the decade of the 1870's, Colorado opened three public institutions of higher education--the School of Mines at Golden (1874), University of Colorado at Boulder (1877), and the Agricultural College of Colorado at Fort Collins (1879). Now, less than a century later we depend upon a large-scale system of institutions of differing kinds, sizes and locations to meet the needs of the state. Offering degrees at the baccalaureate level are nine public colleges and universities and two university centers. In seven of these institutions and at the university centers, degrees are offered at post-baccalaureate levels. There are 12 public two-year colleges operating at 15 campus locations, offering a range of occupational programs as well as associate degree programs in arts and sciences. Five community colleges and one state college conduct Area Vocational School programs, and four additional such schools are operated by school districts or groups of districts functioning through Boards of Cooperative Services. There are five accredited private colleges of liberal arts, one two-year branch of a West Coast private university, and one comprehensive private university.

For each institution in the state one or more qualities that are special can readily be identified. These varying qualities help assure that within the system as a whole there are opportunities appropriate to the variety of interests and talents within the citizenry.

Though there surely are "individuals" within the higher education community there also are "families" which--with all the rich individuality of their members--have certain qualities in common.

The community junior colleges in purpose, programs, and clientele are oriented toward a given locality or community. In Colorado, significant directive powers over the two-year colleges are exercised by committees drawn from the locality, to help assure that the college program and policies will serve well the enterprise and people of the community.

Community junior colleges place their emphasis less upon the subject of study than upon the student as an individual person. They are dedicated to helping the individual of whatever age and background to discover his strengths and limitations and to find areas of study or skill development appropriate to his talents. This emphasis leads the community college to provide special services of testing and counseling, developmental programs for reading and other skills and appropriate remedial courses.

Within its academic program the community junior college offers a wide range of courses and sequences which may lead either to an immediate occupational objective or to advanced study in a baccalaureate program. It also offers courses for youth and adults interested in a general education, without reference either to employment goals or transferability of course credits.

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The community junior college in some respects may be viewed as an extension of public education in the service not only of "college-age youth" but of adults of widely varying ages and educational backgrounds.

Akin to the community colleges are area vocational schools. In actuality, these schools are a category of institution which was first named in the Federal Vocational Act of 1963 but in program, some of these institutions have existed for a long time.

An area vocational school (AVS) is an institution so designated by the state agency responsible for administration of federally aided vocational programs, which has an obligation to offer vocational programs for high school youth and an implied obligation to do so for adults who may or may not have a high school diploma. The AVS designation may be given high schools, community colleges, four-year colleges, or consortia of two or more of any of the foregoing. An area vocational school should round out occupational education programs for high school youth and adults, supplementing programming otherwise available in the secondary and higher schools within its area.[1]

The state colleges serve students from throughout Colorado, though they are oriented particularly to the needs of the region within which they are located. These colleges place chief emphasis upon the instructional function in the areas of the arts and sciences, typically in the professions of education and business, and in some cases in other occupational areas. These institutions are strongly oriented to programs leading to employment but are also concerned with preparation for advanced study in arts and sciences and in the professional areas offered at the universities.

The state colleges, like the community colleges, are sensitive to the needs of the communities in which they are located and offer programs of public service which sometimes include research services. Sensitivity to local and area demands is often a factor in the desire of the state colleges to expand the range of their course offerings and to extend such offerings to the masters or even higher degrees.

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[1] In Colorado, five community colleges have been designated as area vocational schools--Aims, Colorado Mountain, Lamar, Mesa, and Trinidad. Two public school districts are sponsoring AVS programs--those at Monte Vista and Boulder. An Area Vocational Center has been designated in Pueblo, under the administration of Southern Colorado State College with the cooperation of the South Central Board of Cooperative Services comprising six school districts. In the Denver Metropolitan Area the Jefferson County School District and West Campus, Community College of Denver, are sponsoring an Area Vocational Center on a joint, cooperative basis. The State Board for Community Colleges and Occupational Education has designated two Area Vocational Schools under sponsorship of Boards of Cooperative Services--one in the Four-Corners Area (Mancos) and one in Larimer County (Loveland).

The universities are little oriented to the immediate community in which they are located, reaching out instead to the state, the western region, and the entire nation. University-type institutions are truly part of a national resource.

Within the universities the emphasis is upon the professions and the more specialized and advanced levels and areas of knowledge, including the extension of knowledge beyond the current boundaries. Universities are known within the national family of university institutions primarily for offerings in the professions, doctoral programs, and contributions to research, and through programs in these areas the university makes its distinctive contribution within the total state system. As compared to the student in the community college or the state college the university student to a large degree must be ready to fend for himself, for the university is not specially equipped to help him overcome deficiencies of earlier education; its resources go predominantly for the tools required in rigorous scholarship at the advanced levels.

Several points should be made about these families of higher education institutions.

The families differ in their capabilities to serve the needs and to solve various problems of the state. Where one family stands out, another may be inept. The people of Colorado should value each one equally, for they are different in their capabilities and contributions and Colorado needs them all.

Though the paragraphs above have implied that each institution carries one "family name," by no means are all the family members alike. In two cases, it is difficult to link institutions clearly to any one of these "families"--the Colorado School of Mines is a specialized institution which offers programs at all degree levels, but in all cases oriented to the mineral resource industries; the University of Northern Colorado offers a wide range of undergraduate arts, sciences, and professional programs, but at the doctoral level its programs are directed to the preparation of teachers and other educational personnel.

Moreover, institutions and indeed the whole system of higher education are always in a state of development and change. If it were not so the institutions and the system would become irrelevant to the society they serve. In the sections that follow, the discussion will make explicit the differing nature of the several institutions and the differing lines of development which the Commission recommends.

The Colorado System of Community Junior Colleges

Junior colleges were established in Colorado in numbers and at a time which made Colorado one of the early states to have a significant junior college movement. In 1960 junior colleges sponsored by local districts were located in Lamar, La Junta, Trinidad, Pueblo, Grand Junction and Sterling. A two-year state "agricultural and mechanical" college was located at Durango. The junior colleges in Pueblo and Trinidad offered comprehensive programs of college transfer and vocational studies; the others offered in essence the first two years of general college work, with limited programs in vocational areas.

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The junior colleges were initiated, according to state law, by vote of the people within local districts. Following their establishment, local tax levies provided for construction and operating costs, along with income from student charges and state aid. By 1965 state support for operations amounted to $500 per Colorado resident full-time equivalent student, and additional aid was extended for capital construction purposes.

After 1961 when Pueblo Junior College was transformed by local and state action into Southern Colorado State College, there were no two-year colleges in the urban band of Colorado extending from Fort Collins and Greeley to Pueblo. In 1965 a favorable vote in a small district embracing Littleton and Sheridan, south of Denver, authorized the establishment of Arapahoe Junior College, the first two-year institution to be created in the Denver area. However during the 1960's the efforts of interested groups in Adams, Boulder, Denver, and Jefferson Counties to form junior college districts failed at the polls. The Commission, studying needs for educational opportunity in Colorado in 1966-67, felt that "The highest priority need in the state and in Denver is an adequate system of regional community colleges offering, on an open door basis, vocational-technical (occupational) programs and academic programs in liberal arts and sciences."[2]

Commission recommendations to the Governor and Legislature in 1967 eventuated in legislation which has substantially transformed the community junior college system in Colorado. A system of state community colleges was instituted with the establishment by the Legislature of the Community College of Denver and El Paso Community College and with the entry into the state system of Lamar, Otero and Trinidad junior colleges as authorized by the law enacted in 1967. Under the direction of the State Board for Community Colleges and Occupational Education (BCCOE), established in the basic legislation of 1967, these institutions are giving emphasis to programs of occupational education with a goal that half their instructional effort be in these areas. Enrollments in the community junior college sector have risen dramatically with the opening of institutions in the Denver and Colorado Springs metropolitan areas--from 6,939 in 1965 to 21,512 in Fall 1970. Within the state higher education system, the proportion of total enrollments within the community junior colleges has risen from 11.5 percent to 21 percent in these five years.

In addition to the new state institutions in Denver and Colorado Springs, in the mid-1960's prior to the new legislation of 1967, junior college districts were formed in a large area west of the Continental Divide, in Weld County centered in Greeley, and in Fort Morgan. In the fall of 1970 there were six state system colleges operating on eight campuses and six local district colleges operating on seven campuses. All of these institutions are subject to the coordination of the State Board for Community Colleges and Occupational Education and of the Commission. The state system schools are governed by the State Board, with substantial powers delegated to local councils appointed by the Governor.

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[2] Strengthening Higher Education in Colorado (November 1966), page 30.

Expanding the Community Junior College System

The Commission has been a consistent champion of the community college system in Colorado and has supported the emphasis upon occupational programming that the State Board has provided. The very rapid growth of enrollments in the newer comprehensive community colleges located in populous areas of the State--their appeal to students of all ages and the popularity of their occupational programs--are evidence of a long pent-up demand for the kinds of opportunities they afford.

Considering its wide expanses and sparsity of settlement both on the high plains of the east and in the mountainous western half of the state, Colorado is fortunate in its array of community junior colleges, as Map 1 reveals. One or more of these institutions will be found in each of the 13 areas excepting the East Central and North Mountain sectors, and the Southwest and South Mountain areas where Fort Lewis and Adams State College (and Area Vocational Schools at Monte Vista and Mancos) provide a mix of opportunities.

The ideal that an institution of higher education be located within easy commuting distance of every resident is difficult to achieve in any of the Rocky Mountain states, where vast areas are sparsely settled and where natural barriers complicate transportation patterns. Analysis of potential enrollments generated by prospective population in the East Central and North Mountain sectors, the two areas of Colorado now without public higher education institutions, makes it apparent that neither area could justify a community college or college out-post, barring unforeseen developments.

Substantial areas of the East Central counties are within feasible commuting distance of community colleges at Lamar, La Junta, Colorado Springs and Littleton. The State Board for Community Colleges and Occupational Education is studying ways and means by which residents of the eastern portion of this large area may have appropriate access to institutions in Kansas.

The possibility of subsidy for residents of areas of the state in which public higher education institutions cannot be established merits consideration. Grants to residents of such areas which would cover costs of room and a portion of board would provide some equalization of opportunity as compared with the advantages enjoyed by residents of areas in which public colleges are located. It is possible that institutions having a surplus of dormitory accommodations and adequate academic spaces, might be strengthened and their costs spread over larger numbers of students through such grants.

While the establishment of several colleges during the 1960's went a long way toward providing youth and adults in the populous areas of the state with the needed range of educational programs, the continuing rapid growth of population combined with present or prospective limitations on enrollments in existing colleges are already pointing to areas of need that could result in the establishment of one or more additional community colleges or outposts of present institutions during the next eight or ten years.

Within the Denver-Fort Collins-Greeley triangle, major new industrial establishments and the accompanying influx of population indicate that this area could rather rapidly demonstrate the need for additional community college programs. Within or adjacent to this triangle are the North Campus of the Community College of Denver and Aims College, along with three universities. However all of the universities are

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approaching their maximum size. Each of them is essentially a regional or national institution. The CCD North Campus serves an area which lies largely to the south of this triangle. Aims College has grown very rapidly and cannot indefinitely absorb the demand for community college education throughout this area, particularly as CSU and the University of Northern Colorado achieve maximum size. Establishment in Loveland of an area vocational school by the Larimer County Board of Cooperative Services may make possible cooperative programming with Aims College or other institutions as growing needs may require.

Within the Denver Metropolitan Area the Community College of Denver and Arapahoe Community College are well located to serve the area except the large and populous area lying to the east and southeast of the City. As these areas continue to grow and as enrollments continue to skyrocket in the Denver area community colleges and at Metropolitan State College, ways will have to be found to expand programming in these areas. Telecommunications and other new forms of "educational packaging" should be of assistance, but expansion through use of available school or other facilities and perhaps through special outposts of the present institutions may prove to be needed.

In occupational education, systemwide planning for expansion of programs consistent with limited resources represents a significant challenge to the institutions, State Board, and Commission. Occupational education needs and programs transcend the lines between secondary and higher education and between education for youth of high school and college-age, and adults ranging into their seventies and eighties. Because occupational education is not simply "secondary" or "higher," the prevailing structures for planning and operating the formal educational system do not easily take hold of the challenge and opportunity that occupational programs present.

The "area vocational school" idea was created to overcome this problem. Area schools were to complement pre-existing occupational programs in order to assure within the region concerned that the full range of occupational programs--secondary, post-secondary, and adult--are available. Developments to date are uneven. A limited number of local school districts have organized strong occupational programs for high school youth and for post-secondary and adult students as well. In Denver, Emily Griffith Opportunity School is a widely known facility offering post-secondary and adult programs, but occupational education for secondary school students in Denver has been, at least until recently, virtually undeveloped territory. Elsewhere in the state some districts have established quality programs for high school students but little or nothing in post-secondary and adult programs. As noted above, BCCOE has encouraged the community colleges to build strong programs of occupational education for post-secondary students and adults, and very rapid gains in program offerings, enrollments, and costs have resulted. Several of the community colleges now are furnishing secondary-level instruction to nearby school districts.

The statewide planning problem is further complicated by arrangements for funding. Federal moneys are available for construction of area school facilities, with a requirement of dollar-for-dollar matching. Except in the case of junior colleges which have entered the State Community College System, state funds have not been appropriated for area school construction, so that matching funds must come from non-state (in effect, local tax) sources. There has resulted a tendency to allocate federal construction funds according to the availability of local matching funds rather than

according to a concept of statewide needs and priorities. Funds for operation of area schools may come from local, state, and federal sources, but inequities arise from the limitations imposed upon particular funding programs. For example, Emily Griffith Opportunity School in Denver or the Larimer County schools receive no state tax support for their post-secondary and adult programs while occupational programs at these levels in community colleges do.

The issues in planning and the problems of equity which now exist are to some considerable degree the result of the rapidity of expansion of vocational education programs, enrollments, and funding which have followed from the federal Vocational Education Act of 1963 and the amendments of 1968. They are problems associated with progress, if not yet with success, and as such are preferable to the problems of an inadequate response. However, there is an acute need for further statewide planning for occupational programming which will transcend artificial barriers of educational levels and separate administrative agencies. The State Board for Community Colleges and Occupational Education and CCHE have major responsibility to accomplish this planning, and steps are under way to this end.

The State Colleges

As institutions emphasizing undergraduate teaching in the arts, sciences, and selected occupations and professions, the state colleges fulfill needs for educational opportunity at levels beyond those provided in the community colleges. The Commission includes within the state college rubric the five institutions governed by the Trustees of the State Colleges in Colorado and Fort Lewis College. Among these six institutions the heritage and special strengths of the University of Northern Colorado distinguish this institution from the others in the group, even though the Commission differentiates UNC from the two comprehensive universities in Colorado.

Three of the institutions--Adams, Western, and the University of Northern Colorado--have evolved far from their origins as normal schools to a status as multiple-purpose institutions based upon the liberal arts and sciences, with an emphasis in the profession of teacher education but with programs in business and other fields. At Adams and Western, for many decades a number of graduate programs at the masters level in fields related to education have been available and at Adams State, a sixth year program in guidance and counseling is offered. At the University of Northern Colorado a broad array of doctoral programs in educational fields is available; this institution for many years has been one of the leading producers of doctorates in the United States.

Southern Colorado and Metropolitan State Colleges are different in origin, though they have some common elements in their arts and sciences, business and education offerings. Both are urban; Metro State is entirely a commuter institution, and SCSC is largely so, with nearly 70 percent of its students living in Pueblo County. Southern was erected on the base of Pueblo Junior College through legislative action in 1961. Metro State was created in 1963 to provide a multi-purpose undergraduate program in the Denver metropolitan area. Both offer programs in selected technologies. Both are deliberately oriented to a "practical" or applied emphasis in most fields.

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Fort Lewis College until the early 1960's was a two-year college of agriculture and mechanic arts, located in the San Juan Basin in Southwestern Colorado a long distance from any other college and from any large center of population. In its first years after its transition to four-year college status in 1962 Fort Lewis sought identification as a public liberal arts college dedicated to undergraduate teaching. More recently it has been developing programs both on and off campus related to special needs of residents of the Four Corners Area and to the large number of American Indian students who have come to Fort Lewis.

Institution Roles

Without ignoring their appeal to students from throughout the state, the state colleges and University of Northern Colorado should give special emphasis to meeting the needs of youth and adults within their respective regions. Colorado residents who have demonstrated in high school, a summer session or otherwise that they have personal qualities which afford probability of success in the program they wish to enter should be admitted to these institutions. However, if restrictions on numbers admitted become necessary, students within the commuting area of the college should be given preference, and selective admission requirements should restrict the numbers of out-of-state students.

The Commission sees the state college group as predominantly undergraduate institutions which emphasize the instruction function. Yet, deriving in part from their regional service role, most state colleges in Colorado and throughout the nation have offered masters-level programs for many years in subjects related to education and sometimes in other fields. Expansion of graduate work is a current or possible future aspiration of all of the state colleges.

Any extension of graduate programs within the colleges must be carefully monitored by the governing board and Commission because of the doubtful quality and the certain high costs of small programs. Extension of offerings beyond the masters level should not be contemplated in any of these institutions other than the University of Northern Colorado. With respect to masters-level work at institutions where it has not previously been offered, the Commission reaffirms its statement in the February 1967 summary of Strengthening Higher Education in Colorado:

> After 1970 the Commission will consider proposals to initiate such master's level programs, provided an undergraduate major has been offered in the field concerned for at least three years and that an institutional self-study affirms that the proposed advance program is consistent with continued emphasis upon the primary undergraduate mission of the college. All such proposals will be considered in light of available programs in other institutions and the overall needs of the state.

Adams, Fort Lewis and Western state colleges, each located in small cities outside the most densely populated region of Colorado, have much in common along with some notable features unique to each. Each will be serving in areas in which there will be no comprehensive community college, though vocational programs may be available through Boards of Cooperative Services and Area Vocational Schools. Thus, each may meet special needs in the area through selected programs that might elsewhere be

found in community colleges. However, special care must be exercised to avoid course and program proliferation which leads to enrollments too small either for quality or for economy.

Adams, Fort Lewis, Metropolitan, Southern Colorado and Western state colleges should remain essentially undergraduate colleges with emphasis upon teaching. To the extent that graduate programs are offered, they should reflect subjects of particular strength in these institutions which serve demonstrable needs within the area in which each college is located. They should be limited to programs that will attract sufficient students to be offered with reasonable economy recognizing the advantage afforded to residents of the region through proximity to such opportunities.

Southern Colorado State College has incorporated within itself the programs of its predecessor, Pueblo Junior College. Unlike the older state colleges, SCSC's mission from the outset has included an occupational program at the two-year level. The College also administers an Area Vocational Center in cooperation with six school districts comprising the South Central Colorado Board of Cooperative Services.

As urban colleges, both MSC and SCSC have opportunities to initiate programs geared to the needs of city people and institutions. In addition to new areas of curriculum, these institutions can meet urban area needs through such programs as that for a "Weekend College" which Metropolitan State College initiated in January 1970 with support through the Model Cities program. SCSC aims in due course to offer all of the courses required for baccalaureate degrees not only during the day but in the hours after 4 p.m. These worthy goals deserve encouragement and support.

Adams State and Southern Colorado State Colleges, acting alone and in cooperation, should be assisted to provide leadership in Southern Colorado in devising programs and materials most relevant to the needs of the large Spanish-speaking population of the State. Metropolitan State College, in cooperation with other institutions in the Higher Education Center to be developed at Auraria in Denver, should also be assisted in creating programs especially relevant to the major ethnic populations of the metropolitan area and of the state.

The University of Northern Colorado at Greeley was given university designation by the Colorado Legislature in 1970, with support of the Commission. The identification of this institution with the preparation of teachers and educational administrative personnel is well known. After World War II, great increases in enrollments along with emphasis upon education in basic arts and sciences disciplines transformed teachers colleges across this country into more broadly based institutions. In these years UNC added programs in the arts and sciences, business, medical technology and nursing. In many of the arts and sciences, graduate programs leading to masters degrees were instituted, and increased emphasis on work within these disciplines was given in programs leading to all its degrees including the Doctor of Education.

The Commission understands and supports a role for the University of Northern Colorado which continues its function as an institution of higher education primarily concerned with the preparation of teachers and educational administrative personnel. In the law approving the name change, the Legislature in 1970 indicated that it so interprets and understands the role of this institution. The Commission has believed and continues to believe that Colorado does not require additional comprehensive

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Total	60,217

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universities offering advanced professional and Doctor of Philosophy degrees. The Commission believes that doctoral programs now available at the university institutions in Colorado can be offered with greater quality and economy as larger numbers of students enroll in them.

Most of the state colleges have developed substantial programs of extension credit courses off-campus. With federal assistance in the program of continuing education and community service (Title I, Higher Education Act of 1965), all of these colleges have worked with community groups in the identification and solution of community problems. Within the needed framework of planning and coordination, and particularly within the region in which they are located, the state colleges and UNC should be encouraged and aided in the development of off-campus educational services.

The state college institutions are not staffed or equipped to undertake research on a large scale, nor should they be. The research effort of the state should be focused at the comprehensive universities and, as may be appropriate, at the Colorado School of Mines and University of Northern Colorado. Nonetheless, research relative to improvement of the educational program, including research which contributes to the professional growth of the faculty and to the educational development of students, is appropriate at all institutions and state assistance should be available for such purposes.

Expanding the State College System

During the latter half of the 1960's when enrollments in the public higher education institutions were increasing from 7,500 to 10,000 each year, the state colleges absorbed more new students than the university sector and approximately the same number as the community junior colleges.

Fall Headcount Enrollments

	1965	1970	Percent Increase	Actual Headcount Increase
Two-year	6,939	21,512	210.0	14,573
State Colleges[a]	17,713	32,150	81.5	14,437
Universities[b]	35,565	48,832	37.3	13,267
Total	60,217	102,494	70.2	42,277

[a]ASC, MSC, SCSC, UNC, WSC, and FLC.

[b]CU including Centers, CSU, CSM.

Significantly, 55 percent (7,929) of the increase within the state colleges occurred at Metropolitan State College and Southern Colorado State College, the two most urban and comprehensive of the six institutions.

The most impressive increases, proportionately, were made by the community colleges, where headcount enrollments more than tripled between 1965 and 1970. In the five years from 1965 to 1970 the community colleges increased their share of total public sector enrollment from 11.4 percent to 21 percent, while the universities' share dropped from 59.3 percent to 47.6 percent and the state colleges moved marginally from 29.3 percent to 31.4 percent.

There are many reasons to expect that the community colleges will absorb in the future a major proportion of new college entrants and that the state colleges' share of total enrollments will grow only to a moderate extent. The principal reason for this expectation lies in the impressive public response to community college occupational programs and the colleges' readiness to provide courses of virtually any length and depth in response to demonstrated demand. Their location "where the people are" facilitates college-going for a host of family, economic and other reasons.

Within the state college group there will be substantial growth also, especially at MSC and SCSC, for much the same reasons. The general education and occupational thrusts of the state colleges represent curricular areas broadly relevant to the public and private enterprise of the state and nation. Their geographic accessibility to a large proportion of the population and the attractiveness of the smaller colleges to students who desire to "go away to college" also mean that, in the absence of enrollment limitations, the state colleges will continue to grow significantly, though less rapidly than the community colleges.

In its preliminary report, Planning for the 1970's, the Commission observed that, barring policies to shift students among the sectors (i.e. to accelerate the proportionate enrollment growth in the two-year institutions) or to establish new colleges, the present state college system would be virtually filled by 1980. Limitation of enrollments at the comprehensive universities and UNC, and the early attainment by WSC of its desired maximum size were expected to contribute significantly to this end. Developments during the period since the preliminary report was published in December 1969 strengthen this expectation. The enrollment limitations imposed by the Governor and Legislature for 1971-72 at CU, CSU and UNC are both at lower levels and earlier in coming than the Commission anticipated. Economic conditions nationally and within the state have worsened acutely since the fall of 1969 and the prospect of opening additional two-year or four-year colleges in the foreseeable future is not bright. Expansion of opportunity through telecommunications and other means of projecting the on-campus program throughout the state is more promising than in the past; but it is too early to know whether the enlargement of educational opportunity through such devices will supplant some of the demand for on-campus instruction or will have the opposite effect of increasing that demand.

In the face of a prospective topping off of enrollments at UNC and Western, and of the likely filling up of Adams, Fort Lewis, Southern, and Metropolitan State, the Commission gave attention in the preliminary report to significant voids in baccalaureate programming in the Colorado Springs and Grand Junction areas. It acknowledged the urgent necessity "to clarify the mission and give prompt direction to the

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development of the four-year institution at Colorado Springs now operated as a branch of the University of Colorado." It observed that "Developing enrollment pressures also call for the provision of programming on the baccalaureate level in the Grand Junction area." It called for plans to be developed relating to educational needs and resources in both areas.

The Commission entered into agreements with Baxter, McDonald and Company of Berkeley, California, in July 1970 for studies and recommendations relating to the El Paso and Pueblo County area and in November 1970 relating to Central Western Colorado--the area surrounding Grand Junction.[3]

El Paso County Study

Alfred Baxter found that "A strong equity case and more than adequate potential enrollments exist for the further development of El Paso Community College and for the growth of four-year collegiate programs in Colorado Springs" (page 37). He affirmed serious inadequacies in the program, administration and support of the Colorado Springs Center at Cragmor. With respect to the type of program needed in the area he advised:

> It is our view that advanced and professional graduate programs should not be considered for development in Colorado Springs over the next decade. If and as increased capacity for these types of programs is required, it can more reasonably be provided by shifts in the internal distribution of students at existing public universities, (including the Denver Center), by alterations in the proportion of nonresident students admitted, and possibly by contractual or other arrangements with the University of Denver.
>
> In the face of declining national demands for Ph.D.'s in many academic fields, and given the pressures on available state resources to maintain the momentum of community college and urban college development (including the Center), early development of additional university-like institutions seems unjustified in Colorado.
>
> Colorado Springs, however, should continue to generate and serve substantial demands for BA and MA level programs available to adults on a part time basis. Business administration, public administration, education, the fine arts and selected fields of engineering should continue to be areas of appreciable demand. (pp. 46-47).

The institution thus defined might continue to be administered by the Regents of the University, by another existing governing board, or by a new board. Baxter stressed that the institution's role should point to its appropriate mode of governance--if it were to become a "semi-autonomous multi-purpose university" then it might continue with the Regents; "if a collegiate role is appropriate for the Center, then, on balance, the

[3]See Post-Secondary Educational Alternatives in El Paso and Pueblo Counties (February 1971), and The Feasibility of Upper Division Programs in Central Western Colorado (April 1971), both by Baxter, McDonald and Co., Berkeley, California.

arguments favor a statutory transfer of the Center to the Board of Trustees of the State Colleges" (pp. 61-62). Baxter's own recommendations were that the Center be developed as a "collegiate" rather than a university-type institution and that its operation be vested in the Trustees of the State Colleges (pp. 62-63).

In a series of meetings with Alfred Baxter and through comments solicited from the interested institutions, boards and groups in Colorado Springs and Pueblo the Commission considered the findings and recommendations. It concurred in the findings that there is a continuing need in the Colorado Springs area for both a community college and a baccalaureate college. The major questions for decision involved (1) the appropriate role for the institution at Cragmor, and (2) the appropriate arrangement for its governance.

The Commission adopted a role definition which envisions the development of the Colorado Springs Center into a strong college in which masters degree programs will be offered in carefully selected areas. Its action defining the role was as follows:

> That the institution located at Cragmor be established as a first class undergraduate institution with such selected masters degree programs as the Colorado Commission on Higher Education may approve from time to time; and established with adequate baccalaureate programs emphasizing the arts and sciences and selected fields such as business administration, public administration, and education; and that the programs should generate and serve substantial demands for selected masters level majors available to adults on a part-time as well as a full-time basis. (CCHE Minutes, March 23, 1971, page 574.)

The issue of governance of the Colorado Springs institution remains under consideration. Complicating the issue is a provision in the state Constitution which indicates that the Regents of the University of Colorado may not operate a semi-autonomous degree-granting college except in Boulder.[4] Both the Regents and the Commission are in agreement that the Colorado Springs Center should cease to be operated under the fiction that it is part of the Boulder campus and should be developed as a degree-granting institution with a large measure of independence under its own local administration. Thus it would be up to the people of the state to determine, through constitutional amendment, whether such an institution should be governed by the Regents or by some other body.

Alfred Baxter pointed out also that the governance issue was complicated by the absence of any long-term policy or principle for governing and coordinating higher education in Colorado. The Commission had indicated, in the preliminary report of December 1969, that "if the state were starting fresh to organize higher education," it would recommend that each institution have its own governing board, under a strong state coordinating body.[5] Two years previously it had suggested maintenance of the current

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[4] See opinion of the Attorney General of Colorado, No. 71-4561, dated March 17, 1971.

[5] Planning for the 1970's, page 93.

[6] CCHE Minutes, April 8, 19

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boards for the community colleges and state colleges, with the merging of governing responsibility for the comprehensive universities and School of Mines into a single "university board," with maintenance of a coordinating board [illegible]ter pointed out that a state policy to move toward centralized governance or toward decentralized governance with coordination would help determine an appropriate governing decision for the Colorado Springs Center.

Recognizing that governing structure for the University's Denver Center is also at issue, and in the face of other developments relating to governing and coordinating structures, the Commission recommended in April 1971 that the General Assembly establish a committee to review structures for coordinating and governing of higher education including the Centers. Pending action by the Legislature and, if needed, by the people, the Commission acknowledged the responsibility of the Regents for the operation of the Center at Colorado Springs within the role concept previously adopted by the Commission, and asked the Regents to submit to the Commission specific recommendations for necessary program modifications.[6] The 1971 Legislature provided for a study of organization and governing structure which is underway as this report is written.

Central Western Colorado

Because of limited population in the commuting area surrounding Grand Junction and on the Western Slope generally, Alfred Baxter undertook a detailed examination of the enrollment requirements for a viable upper division program and of sources from which the necessary enrollments might come.

Baxter concluded that upper division programs should enroll between 1,000 and 2,000 full-time equivalent students in order to afford a sufficient range of upper-level studies in arts and sciences and such occupational areas as education, business and public administration. His analysis of enrollments in Mesa College day and evening programs and in extension courses now taught in Grand Junction produced estimates ranging between 720 and 1,020 FTE students for upper-level programs. He indicated that substantial additional numbers could be expected through transfer among graduates of other Western Slope community colleges and, especially, as the result of imposition of enrollment limits which have already been effected at the University of Colorado, Colorado State University, the University of Northern Colorado and Western State College. Thus, he concluded that "Adequate minimum enrollments to justify and sustain a qualitatively acceptable set of upper division programs will almost certainly be available if a general collegiate program is offered in Mesa County with modest admission requirements" (page 24). Baxter did not evaluate the merits of increased educational development at Grand Junction as compared to other areas of the state, but affirmed that there are significant needs in the area which could be served through new programming there. Such an expansion "would have important economic, cultural and social consequences," and might reflect a state policy to favor a redistribution of population concentration and of economic development (pp. 3, 10).

To provide such upper division programming Baxter advised: "It is feasible to provide general academic programs of acceptable depth, diversity, and quality leading

[6] CCHE Minutes, April 8, 1971, pp. 583-584

to bachelor's degrees either by establishing a specialized upper division college or by converting Mesa College to a four-year institution" (pp. 1-2). Not feasible, he said, was the establishment of a new four-year institution independent of Mesa College. Nor was it advisable to create a kind of "holding company" to plan and administer extension courses offered by others. The former could not be sustained without destroying Mesa College because of limited enrollment potential; the latter would be useful as a supplement to whatever program might be developed in Grand Junction but "Extension programs are not fully adequate substitutes for institutional offerings" and are thus not a sufficient alternative (page 27).

Baxter's recommendation was that a single institution be developed; that is, that Mesa College add baccalaureate offerings while further extending its lower division occupational programs. "The experiences developed at Southern Colorado State College suggest to us that a fruitful and balanced mix of programs can be developed in a comprehensive, four-year college setting." Baxter detailed a number of specific actions through which this evolution might occur without damage to the community college occupational purpose which both the Commission and the State Board for Community Colleges and Occupational Education have favored.

The Baxter report and the alternatives proposed are under study by the Commission, in consultation with representatives of the institutions and governing boards most concerned. Specific recommendations will be formulated and submitted to the Governor and Legislature.

The Commission believes that there will be a continued and growing demand for baccalaureate studies in collegiate institutions, and it acknowledges too the strong advantage to the people of Colorado that is provided by an appropriate geographic spread of institutions. The imposition of enrollment limits at four institutions (CU, CSU, UNC, and WSC) which in Fall 1970 enrolled 50 percent of the total enrollment in Colorado two-year and four-year institutions means that in the early future, either the doors to post-secondary educational opportunity will swing shut or additional places must be provided elsewhere. While the Commission believes that major advances can and will be made in extending educational opportunity outside the typical college classroom, it would point out that a rapidly growing population, particularly in the college-age cohort, requires additional places in college unless future generations are to be provided less opportunity than those in the past. It acknowledges the necessity that the Center at Colorado Springs be strengthened to assume a much more significant role in the community and in the family of public institutions; and it urges that the deliberate expansion of programming in Grand Junction will help meet the needs of the state and will represent a significant move to enhance the attractiveness of life and enterprise on the Western Slope.

The University System

The term "university" is applied to higher education institutions of many sizes and kinds in America, and has no precise meaning. The older institutions so named offer graduate programs at the top levels of scholarship, expend substantial funds in support of research and public service activities, and offer undergraduate and advanced instruction in professional fields as well as in the arts and sciences. Many institutions which are not named universities have some of these attributes. The term "comprehensive

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university" is used in this report to describe institutions in which doctoral programs in many arts and sciences disciplines are offered, sponsorship of research is a major obligation of the institution, and undergraduate and graduate instruction through the doctorate is offered in several professions.

What may be referred to as the broader "university resources" of the state at this time comprise two public and one private comprehensive universities, two institutions offering advanced programs in specific fields, and one branch of one of the comprehensive universities. These resources are as follows:

1. Comprehensive programs of instruction, research and public service at the University of Colorado in Boulder. The professional schools of the University include Architecture, Business Administration, Education, Engineering, Journalism, Law, Music, Pharmacy; and (at the Medical Center) Dentistry, Medicine, and Nursing. Doctoral programs are offered in 58 fields distributed across the arts, sciences and professions. Strong boosts have been given programs in the sciences in the 1960's by major grants from the National Science Foundation and the National Institutes of Health. The University is the only member of the Association of American Universities in the Rocky Mountain States.

2. Comprehensive programs of instruction, research and public service at Colorado State University in Fort Collins, a land-grant university with programs at doctoral and advanced professional levels in 33 fields centered in the sciences and engineering. Professional schools include Agriculture, Business, Engineering, Forestry and Natural Resources, Home Economics and Veterinary Medicine. In the 1960's the University grew dramatically in enrollments, range of curriculum and scope of research program.

3. Comprehensive programs of instruction and research, and certain public service programs, at the University of Denver, a private institution. Doctoral programs are available in 25 fields through the College of Arts and Sciences and some of the professional schools which include Business Administration, Engineering, International Studies, Law, Librarianship and Social Work.

4. Programs of instruction and research and a limited program of public service, all oriented to the mineral resources industries, at the Colorado School of Mines in Golden. Doctoral degrees in mineral engineering areas have been offered at the School for many decades, and graduate enrollments have been growing, especially in response to reorganization of the program within the past four years under which the first professional degree is awarded at the master's level.

5. Programs of instruction, research and public service oriented to the profession of education at the University of Northern Colorado in Greeley. Doctoral degrees in education are offered in some two dozen sub-areas.

6. Programs of instruction and public service, and some research, at the Denver Center of the University of Colorado. The Center program leans upon faculty and other resources of the Boulder campus, especially in the sciences and engineering. Its graduate and advanced professional offerings are at the

master's level.

As is apparent from this brief characterization, the institutions offering instruction at the top levels differ one from another in program emphasis even though at the lower levels there are substantial similarities among CU, CSU and DU. The University of Northern Colorado, on the other hand, is more specialized as the array of programs and courses attest. The Colorado School of Mines is even more specifically directed. The diversity among these institutions and the specialized character of two of them contribute to the total mix of educational opportunity in the state and help to reduce unnecessary duplication.

Institution Roles

The University of Colorado at Boulder is a comprehensive university taking leadership in the arts and sciences and in selected professions. It is to be expected that development of any additional degree programs at the University will be in response to changes within fields of knowledge and to provide additional flexibility of program within the present structure.

In the future, without giving up its commitment to undergraduate education especially at the upper level, the University should give increasing stress to programs on the graduate and advanced professional level and to research. Graduate enrollments and the proportion of graduate students will rise accordingly. As two-year institutions are developed within easy access of most residents of the state, the numbers transferring to the University may be expected to increase and the proportion of upper division students will increase. Thus, the programs of the University will increasingly serve university-qualified students at the levels characterized by specialization, rather than students seeking an undergraduate education primarily as preparation for immediate employment.

Colorado State University is a comprehensive university taking leadership in the sciences, especially the biological, and in selected professions. It reflects the qualities of the land-grant colleges and universities which, with all their concern for science and scholarship, have given like emphasis to applications of knowledge in on-campus instruction and in public service including cooperative extension work. Their concern for the practical uses of knowledge--in agriculture, engineering, home economics, veterinary medicine and other areas--gives these institutions a special place in higher education in this country and throughout the world.

Rapid advances in technology and the impact of automation especially since World War II have brought about basic changes in education for many of the professions. Greater stress is now placed upon education in the disciplines underlying the professions. As these changes occur, larger proportions of students, and larger amouts of the programs of virtually all students, are to be found in the arts and sciences, and the old distinctions between the land-grant university and other state universities tend to disappear. Yet there are values in the land-grant emphasis which ought to be preserved. The roles of the land-grant and separate state university should be complementary. That implies that there will be continuous and increasing coordination and cooperation between them.

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As at the University of Colorado, increasing stress will be placed in the 1970's upon offerings at the upper and graduate levels at CSU. Colorado State University should continue to emphasize the sciences and professions relating to biology, engineering and home economics.

At each of the comprehensive universities and at the University of Northern Colorado and Colorado School of Mines, because of resource limitations, during the 1970's programs should evolve within the fields in which each is presently committed. At advanced levels in fields which are part of the special responsibility of other universities and colleges in the state, cooperative programs may be of mutual advantage.

The Colorado School of Mines serves in a special role in Colorado as an institution oriented to the mineral resources industries. A distinguished Task Force was appointed by the Commission in 1967 to assess the role of the School and to advise on appropriate courses of action.

In its report the Task Force indicated that in its undergraduate programs the School "has an excellent reputation" and almost alone among its peers has classes large enough to keep its per-student costs at a reasonable level. It stated that "The continuing need for mineral engineers and the low enrollment in these fields nationally combine to add urgency to the maintenance and development of presently healthy institutions" such as CSM (page 4). The Task Force found, on the other hand, that graduate programming had developed more slowly than in many institutions which had taken a pre-eminent position in education for the mineral resources fields. It advised that "should Mines continue to concentrate its educational program heavily on the undergraduate level, the worldwide reputation Mines earned in the past will be shifted rapidly to other institutions of higher education."[7]

The Commission responded to the Task Force report by affirming that the School is a valued part of the total Colorado system, and that the School should be supported by the state to permit, along with the efforts of the administration, faculty and alumni of the School and with the help of the mineral industry, the progressive growth and strengthening of the graduate program consistent with the special character of the School. A broadening of program into the arts and sciences or into a general engineering program were specifically not envisioned. As at other institutions offering doctoral studies, cooperative programs might appropriately be planned with other institutions, particularly the University of Colorado or the University of Denver.

The role of the University of Northern Colorado has been discussed in the preceding section; the Denver Center of the University of Colorado is treated in the chapter following.

Throughout the United States the very large size to which comprehensive public universities have grown during the past decade has led state agencies and the universities themselves to institute controls on growth within which the universities concentrate their efforts on those programs and activities which universities alone can provide within a total system of higher education. As these controls are instituted, enrollments

[7] Directions for the Colorado School of Mines, January 1968

continue to grow on the graduate level, in upper division courses, and in professional areas unique to the universities, and enrollment limitations in other areas progressively redirect students to other institutions within the system where undergraduate and limited graduate instruction is available in arts and sciences and in some of the professions such as education and business. In Colorado, only recently have controls been instituted at the University of Colorado and Colorado State University to permit these universities to give emphasis to those areas and levels of instruction which are their special strength.

In the years immediately ahead, the two comprehensive universities and the specialized institutions should emphasize those programs and levels of study which are available only within these institutions. Such a policy will result in directing students within these institutions into relatively higher-cost areas of instruction while the students who are prevented from entering their lower-cost, lower-division programs enroll in other colleges. One of the principal reasons the universities were slow to institute enrollment controls was their concern, and it has been a legitimate one, that only by taking more students would they be funded for additional teaching personnel. Because upper division and graduate instruction is more specialized and involves more individual attention on the part of the faculty, the universities will be able to restrict enrollment at the lower levels and build enrollments at the advanced levels only if budgetary support is provided which takes account of the different conditions and requirements of advanced programs. Within the system as a whole, per student costs should not change on this account but within individual institutions, per student costs must change as the deployment of students among courses and levels changes.

Expanding the University System

The limitations proposed in enrollments at CU and CSU result from a conviction that such limitations will help to strengthen each institution as it focuses upon the programs and levels of instruction in which it specializes. The limitations also are intended to make it possible to initiate, when the demand can be demonstrated and as resources make it possible, appropriate expansion of university-type programs on a commuter basis. The Commission believes that further expansion of university facilities in residential universities in the Boulder-Larimer-Weld county area would not serve the state effectively, since expansion of such facilities there would unduly delay and perhaps prevent the development that will be needed in the metropolitan areas.

From a program point of view the Denver Center provides a logical base for future development in the Denver Area. It seems evident that if the University of Denver were so disposed it might have provided a stronger basis for such development. However, DU is effectively dedicated to strengthening its role as a private institution serving a national clientele.

The future of the Denver Center cannot be considered from the viewpoint of the needs of the urban area without considering also the prospective development of Metropolitan State College. The MSC authorizing legislation of 1963 indicates focus upon undergraduate instruction. However, the growth of its student body and faculty serve to bring together a cadre of professional people dedicated to meeting the instructional, research and public service needs of the urban community. Its activities to this end can and must be meshed with those of the Denver Center, where such programs

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as urban planning, engineering and law which will not be offered at the College will have relevant contributions to make as will the social service-oriented, technological, and other programs of Metro State.

It is the possibility of such meshing of programs and people which, along with the feasibility of sharing of certain facilities, makes the Auraria Higher Education Center so compelling a project. Location of Metropolitan State College and the Denver Center at points even a mile apart would present barriers to the joint enterprise out of which significant urban educational programming should come.

The Commission believes that Denver will need urban public university programs and facilities, both because of the contribution such programs make to the leadership of a city and because experience in other cities makes it evident that students will go to urban institutions who are unable to go to a "university in the country." To build a university is an ambitious undertaking. Colorado is fortunate that in the Denver Center and Metropolitan State College, together with the possibilities of cooperative interaction with the University of Denver and the Boulder Campus, the state has in embryo the faculties, library resources and programming which can be strengthened over a period of years to meet more fully the growing needs of this metropolitan area.

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Chapter 4

HIGHER EDUCATION OPPORTUNITY IN THE DENVER METROPOLITAN AREA

The inadequacies of post-secondary educational opportunity in the Denver Metropolitan Area were documented in a series of studies in the 1950's and early 1960's.

Though five of the six accredited private colleges and universities of the state are located in Denver, until 1965 there was no public college offering broad programs for commuting students. The result was evident both in the near-total lack of vocational education programs and in the low proportion of high school graduates who went on to advanced education. Against more than a 50 percent progression from high school to college in those counties in which Adams, Western State and Fort Lewis Colleges and Mesa, Lamar, Northeastern and Trinidad Junior Colleges are located, in Denver County the college-going rate in the early 1960's averaged 37 percent. Denver stood well below the statewide median progression rate of 40 percent. Every county in which a two-year or four-year public college was located was well above the median and far above Denver.[1]

Against this shortage of opportunity, there was a massive and rapidly growing need. In the decade of the 1950's, 72 percent of the new jobs which opened in the state were in the four-county Denver area. Population of the area grew rapidly; more than half of the people of the entire state lived there. The prospects were for continued growth of both population and job opportunity.

Remedial steps were initiated by the Legislature in 1963 when Metropolitan State College was authorized and initial planning funds for the College were appropriated. In the following year the Regents of the University of Colorado took steps to expand the program and enrollment at the Denver Center and to raise the standards of admission and instruction. In 1965, the Legislature funded the opening of Metro State.

That same year, voters in the Littleton-Sheridan School Districts approved the formation of Arapahoe Junior College (now Arapahoe Community College) as a local district institution; AJC opened in Fall 1966. But in Adams, Boulder, Denver and Jefferson counties, efforts to ini
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[1] See Committee for Education Beyond High School, Enrollment Projection Manual, December 1964, page 40.

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Jefferson counties, efforts to initiate comprehensive junior college programs through local authorization and funding failed; and initially Arapahoe Junior College gave little indication of interest in providing a comprehensive community college program including substantial work in vocational-technical fields.

As the Colorado Commission on Higher Education took its first good look at higher education in the Denver Area in 1966, it found a number of serious problems:

1. The appropriate roles and relationships between the University's Denver Center and Metropolitan State College were undefined.

2. Metropolitan State College, described in the act establishing the college as part of the "state general college system," was vigorously engaged in developing programs not only in the arts and sciences and pre-professional areas but also in a wide spectrum of vocational-technical fields. Its efforts in the latter areas were in response to an objective stated in the legislation creating the college: "To provide and offer programs of instruction in semi-professional technical education in science and engineering technology on a terminal basis, either on its own campus or through contracts with public school districts" within the four counties.

3. Metropolitan State College interpreted "semi-professional technical education in science and engineering technology on a terminal basis" to imply the full range of occupational programming needed throughout the area by youth and adults, including such areas as agriculture, applied and graphic arts, business and office occupations, health occupations, personal service occupations and public services. There is ample indication of a broad public expectation that Metro would offer such programs, and indeed, at the outset, the College was criticized for not doing even more. Nevertheless, it seems evident that Metro State was not clearly envisioned as a two-year community junior college or as the center for the establishment of branch colleges throughout the area. The fact is that its intended role did not emerge clearly in the authorizing legislation. It appeared that Denver, in Metro State, had a part of a community college and--provided the Legislature so authorized--a four-year general college as well. But the area

lacked a genuine community college system which would emphasize occupational programs for all youth and adults on an open-door basis.

Recommendations and Legislative Actions, 1967

Confronting this combination of needs and of partial steps toward solutions, the Commission gave major attention to the Denver Area in its 1967 proposals for "Strengthening Higher Education in Colorado." One of its leading proposals was that, within the state system of community colleges which it recommended, three such colleges be authorized within the four-county area.

It recommended further that Metropolitan State College should be a four-year college offering undergraduate programs in the arts and sciences and in designated technical and professional fields. Metro should, as the background for the college indicated, "reflect and take full advantage of its urban setting." But the Commission advised that as the two-year schools become operative, these institutions should take over the two-year occupational programs and Metro State should focus on baccalaureate programs and on occupational and technical programs of more than two years. Moreover, the Commission said, when the community colleges were available to provide a wide span of programs and access to all who seek to learn, Metropolitan State College should establish admission standards that would give reasonable assurance that admitted students could succeed in its programs.

With respect to the Denver Center, the Commission proposed a role that would "emphasize progressively course offerings on the junior, senior, and graduate levels," with strict limitations upon entering freshmen and lower division transfer students. It noted its agreement with the University Regents that the Denver Center was not to become a new and independent university; it would serve as an urban center for the University, affording opportunity in University programs for residents of the core area and as a downtown "laboratory" for relevant programs centered in Boulder.

The 46th General Assembly enacted legislation to create the recommended State Community College System. It authorized establishment of a three-campus Community College of Denver, with units to open in the Fall of 1968, 1969 and 1970. It authorized Arapahoe Junior College to enter the State System either within or outside the Community College of Denver according to the College's preference. It authorized Metro State to proceed to institute junior- and senior-level programming in 1967-68 and 1968-69.

The Commission developed agreements with the Regents under which not more than 500 full-time-equivalent entering freshmen would be admitted at the Denver Center in each calendar year, nor transfer students with fewer than 45 semester credits acceptable in the program which such students wished to enter. One effect of these limitations was to reduce enrollments somewhat during 1967-68 and 1968-69.

Confronting the Unfinished Business

In the months following these actions of early 1967, with new community colleges in formation and with Metropolitan State College growing rapidly in program

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offerings and enrollments and entirely housed in rented space, planning for the Denver Area remained an acute problem. It was necessary to assess the prospects for enrollment growth in the several institutions, and the likely impact of the one upon the others. The respective roles of the several institutions, and especially the allocation of responsibilities for occupational programming among the high schools, community colleges, Metro State and Emily Griffith Opportunity School, required delineation, and possibilities of cooperation in programming and in the sharing of resources of faculty and facilities needed exploration. Planning for development of permanent campuses was essential, and such planning needed to take into account the locations of other elements of the area's higher education resource.

Within the Metropolitan Area of Denver a wide range of post-high school educational opportunities is required to meet the needs of the residents and of public and private enterprise:

> Occupational education ranging from short courses of a few days or weeks to train for particular vocational skills, to programs of four years having technical and semi-professional job goals.
>
> Programs in the arts and sciences, for general education including areas of learning directly related to occupational goals, and for preparation for the baccalaureate degree and for professional and graduate study.
>
> Advanced graduate and professional study and related research.

The needed opportunities can be provided effectively and economically only if the roles and objectives of area institutions are clearly defined and interrelated. To this fundamental element of planning for the Denver Area, the Commission addressed itself in cooperation with the governing bodies of the institutions concerned.

Role Statements--Community College, State College and University Center

Definitions of the roles and relationships of Metropolitan State College and the Community College of Denver are particularly crucial because of the orientation of each to the urban community and to occupational programming. Statements of the roles of these institutions and of the Denver Center have been developed and endorsed by the respective governing bodies and Commission. The detailed statements appear at the end of this chapter.

These statements provide that the Community College will offer programs of up to two years beyond high school suited to the needs of youth and adults for both (a) "occupational, technical, and community service programs" and (b) "general education, including college transfer programs." The Community College "should be the principal institution in the Denver area emphasizing programs of occupational education beyond high school level." It should "have unrestricted admissions for high school graduates or students with comparable qualifications," and as provided by law, any person should be able to enroll in any courses that he "can reasonably be expected to successfully complete."

Metropolitan State College is defined as "an urban-oriented four-year college offering baccalaureate programs in the arts and sciences, programs of more than two years in semi-professional technical education on a terminal basis, and programs in selected professions including business, education, and approved areas of the public and social services." Its offerings should relate on one hand to the lower division programming of the Community College and on the other "to graduate programs at the Denver Center of the University of Colorado without development of graduate programs at the College." Close liaison in the development of two-year occupational programs between Metro State and the Community College is anticipated and as the two-year colleges come into full operation the transfer of two-year applied science programs from Metro to the Community College is foreseen. Moreover, as the community colleges are fully established, "admission requirements at MSC should be adjusted to provide reasonable assurance that admitted students can succeed in its programs."

The role of the Denver Center would also evolve as the Community College and Metropolitan State College grow. "The Denver Center is a downtown University branch offering programs of instruction, research and public service--particularly professional programs and those with extensive urban involvement." Emphasis will be given to upper division and graduate work. Strong research and public service functions which are directly related to the needs of the Denver community and the Center's teaching responsibilities will be strengthened. Within a framework of cooperation with Metro State College and the Community College, the primary role of the Denver Center will be to provide graduate and professional education.

Other Institutions and Programs

Arapahoe Community College, formed as a local district-controlled, state-aided institution, serves an area-wide purpose.

Since its opening in 1966, and as plans for enlarged facilities in a permanent campus near downtown Littleton have been developed, the College has extended its planning for occupational programming to that of a comprehensive community college, with differentiation of vocational-technical programs appropriate to a needed "mix" of such programs within the total metropolitan area. As these plans evolved, the College and the State Board for Community Colleges and Occupational Education agreed that Arapahoe Community College should serve as an integral part of the total community college resource within the Denver Area. As authorized by the Legislature, ACC entered the State Community College System in July 1970. In this changing role, Arapahoe Community College will continue to serve the five counties of the Denver SMSA and adjacent counties, with large numbers of its students expected to come from the high schools of its immediate area.

Occupational Education.--Formation of the Colorado Community College System, with its strong occupational education thrust, has come at a time when interest in expanded vocational-technical programming has been growing rapidly in the high schools and for adults, as well as in some of the state colleges.

Within the Denver Area an important step has been taken through the establishment of the Coordinating Council for Occupational Education comprising representatives of the Denver Public Schools, Arapahoe Community College, Community College of Denver and Metropolitan State Colle
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Denver and Metropolitan State College. This Council has identified distinctive roles of the institutions represented and criteria for the planning and development of programs within the several educational levels and institutions concerned.

Independent Colleges and University of Denver.--The three independent colleges of the Denver Area--Loretto Heights, Regis and Temple Buell--and the University of Denver represent an invaluable higher education resource to the area and to the state. All give emphasis to the liberal arts and sciences and to professional preparation for teaching; Loretto Heights in addition offers a baccalaureate program in nursing, and the University of Denver offers undergraduate and advanced professional as well as graduate programs in many areas typical of a comprehensive university.

In the past and until the later 1950's, to a degree the University of Denver served as a "streetcar college" in Denver, much as urban private universities have done in other major cities. However, in the course of the 1950's, the program and student body of the University of Denver came to reflect the growing national role of the University. Rapidly increasing tuition charges served, particularly in the absence of a state student aid program, to restrain enrollment of local residents. By the 1960's the University of Denver was clearly a national institution in the complexion of its student body as well as its faculty. Public institutions were needed in Denver to fill the void that to some extent the University had been able to fill in the past.

Loretto Heights, Regis and Temple Buell Colleges also enroll large numbers of students from other states, particularly from the Central and Western United States. Regis College attracts a substantial number of commuting students. While Regis anticipates some expansion in enrollments during the next decade, it is apparent that the private institutions taken together will be unable to make a large quantitative contribution in providing needed places. Nonetheless, given the opportunity, the private colleges and the University of Denver can make an even larger contribution in the future than they are making at present in the absence of any attempt on the part of the state to utilize their resources.

It seems possible that some of the programs and facilities at the University of Denver can serve needs of the state if contractual arrangements suitable to the University and the state can be developed, in lieu of providing facilities and faculty in public institutions in Denver. Such areas as hotel management, social work, librarianship and engineering are illustrations worthy of special consideration. It seems likely also that all of the private institutions in the area might be able to enroll larger numbers of local residents if appropriate financial arrangements could be made through contract or otherwise. The Commission is exploring such possible avenues of cooperation.

Links among the private and between the public and private institutions in both instructional and administrative-managerial areas also hold promise. The participation of the private institutions in the Colorado Higher Education Systems Sharing (CHESS) information system should contribute significantly to this end.

Planning for Campus Development

The development of public higher education in Colorado over many years left the metropolitan areas as great vacant spaces (excepting Pueblo with its two-year

institution) until the 1960's, almost concurrently with the great increase in college enrollments that occurred as the "tidal wave of post-war babies" began to turn 18 years of age. The establishment of Southern Colorado State College in 1961, Metropolitan State College in 1963 and of the three-campus Community College of Denver and El Paso Community College in 1967 were important actions urgently required to fill significant portions of the urban void. Providing for the development of their programs and planning for their appropriate siting and facilities has represented a top current priority for the state.

The key to planning for appropriate facilities for the public institutions in the Denver Area--including the changing programs of the Denver Center, Community College of Denver and Arapahoe Community College--was the location of Metropolitan State College. In breadth of program and in enrollments, this institution is expected to be the largest to be located in one campus area (the ultimate enrollments of all units of CCD may surpass those of Metro State).

Moreover, MSC has grown rapidly and gives promise of continuing to grow so rapidly that there is the greatest urgency in providing permanent facilities for this institution. By 1970 it had become extremely difficult and costly to provide additional space within walking distance of the present facilities. Rental costs exceed $1 million per year. Originally targeting its occupancy of permanent space in the Fall of 1972, the College has been forced by the pace of planning and site acquisition to push its expected occupancy date back to Fall 1974 and possibly to 1975.

The College developed, in 1966, a procedure for site selection which began with delineation of the goals of the College; identification of criteria and appropriate weighting of the criteria to be applied to various site proposals; preliminary review of a large number of sites, and intensive study of the most promising of them from the standpoint of traffic access and circulation, population characteristics, centers of employment, site environment, existing conditions on the site, proposed land use, zoning, utilities, soils and grading, and cost. A nationally prominent planning firm was retained by the College to assist in the site selection process. The studies eventuated in the recommendation, approved by the Trustees of the State Colleges in Colorado in mid-February 1968, of a site in the original settlement area of Denver known as Auraria, immediately to the west of the downtown business and commercial area.[2]

In independent studies undertaken for the Downtown Denver Master Plan Committee by John Dempsey and Associates and by the Planning Office of the City and County of Denver, the Auraria area had previously been identified as the most promising of possible sites within the City. The College's own study confirmed these findings.

It was a condition of Trustee approval that the Auraria site be an Urban Renewal area, since on any other basis site acquisition costs were deemed to be excessive. The necessary applications were submitted by the Denver Urban Renewal Authority in spring 1968.

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[2]See Albert C. Martin and Associates, Metropolitan State College Site Selection Study (1968).

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The Higher Education Center Concept

Coordination of planning efforts of Denver Area institutions with respect both to their programs and their needed facilities was undertaken by the Commission in co-operation with the area institutions through the Metropolitan Denver Council on Higher Education, a group appointed by the Commission in October 1967.

At a meeting of this Council in July 1968, a new concept for the possible development of the Auraria area emerged. The Denver Center of the University and the Emily Griffith Opportunity School are virtually "across the street" from the Auraria site where MSC desired to locate. The idea was broached that these institutions, together with the Community College of Denver, should explore the possibility that there might be developed at Auraria a Higher Education Center within which the state schools might operate as distinctive and independent institutions, within a framework of cooperation and sharing of certain programs and facilities to the advantage of all concerned.

Exploration of the Higher Education Center idea proceeded within the framework of the Metropolitan Denver Council, with Commission leadership. A "Working Committee" representing the executive heads and planning officers of each institution, with the directors of the Denver Planning Office and Regional Council of Governments as ex officio members and with the Commission director as chairman, undertook an intensive study of the idea. In September 1968, with the encouragement of the Working Committee, the Commission employed Lamar Kelsey Associates of Colorado Springs to study the feasibility of locating such a Center at Auraria, having reference particularly to the physical characteristics of the site as they would bear upon the large operation that such a Center would represent.

Kelsey presented his findings in early November. They served strongly to confirm the potential of the Higher Education Center concept and to indicate that the Auraria site could readily accommodate such a Center.[3]

Approval of the Auraria urban renewal application by the U.S. Department of Housing and Urban Development in mid-January 1969, and reservation of $12.4 millions representing the federal share of the cost, gave a strong boost to the project. The Colorado Commission on Higher Education, in late January 1969, endorsed the Higher Education Center concept, acknowledging that the Center promises to provide a range and quality of educational programs, and an economy of resources, that geographically dispersed institutions could not attain.

Subsequently, in November 1969, the people of Denver voted a charter amendment to provide up to $6,000,000 toward local costs of acquisition of the Auraria site for the proposed Higher Education Center. The Colorado General Assembly, in 1970, enacted legislation under which physical planning for construction of Metropolitan State College at Auraria has been initiated and initial funds for purchase of the site for the Higher Education Center have been appropriated. In response to these federal, local

[3]Higher Education Center, Auraria Area, Denver, Colorado (December 1968).

and state commitments, the governing boards and Commission established a Policy Board under which definitive planning is under way for each component of the Center, for sharing of facilities, and for the further steps necessary to create an authoritative body to direct the planning and development of the Center.

Planning for 1980 and Beyond

It is planning for 1980 and beyond that presents a challenge and the opportunity to Colorado higher education institutions, the Governor and the Legislature. The fact is that planning started in 1971 could not produce physical accommodations for educational programs prior to 1976 at the earliest. Metropolitan State College was, in a beginning sense, "planned" in 1962 and 1963 when its establishment was authorized by the Legislature. The earliest date at which Metro State can occupy an initial complement of permanent buildings will be Fall 1974, nearly twelve years after the legislative authorization of the College, because of the time required for initial start-up, site acquisition, master planning and program planning, physical planning of specific buildings, and construction and furnishing of the structures. Thus in 1971, planning for 1980 is short-range or at most, intermediate-range planning. Though it is obvious that a great many eventualities may alter the shape of things to come, it is essential that current thinking and planning be projected even beyond 1980.

A great deal has been accomplished in the Denver Area since the mid 1960's to provide a base for a new level of higher educational service, as earlier pages have indicated. Yet, the planning which has been done is heavily rooted in assumptions derived from past experience and in projections from data that come from institutions and activities operating in the past. Of course this is the conservative way to plan for the future. However, it is scarcely an exaggeration to say that there was no public higher education in Denver in the past to provide a base for projecting into the future. There seems little doubt, in light of the tremendous response to the new community colleges in both Denver and Colorado Springs, that these new institutions are making significant impact upon the total higher education system through expanding the range and availability of educational opportunity rather than through deflecting enrollments from some institutions to others.

But other changes lie ahead. As earlier chapters have pointed out, some of the four-year residential-type institutions have attained a size at which further growth is undesirable for both educational and economic reasons. This is an entirely new condition in higher education in Colorado, and it contributes to the changing circumstances in which planning for 1980 and beyond must be done. More significantly still, the response of the Colorado public to the new commuter colleges indicates that the commuter institution serves needs that the older college system did not serve.

All of these new elements as well as the older components of our higher education system are affected by new technologies in education and in communication which also may have major effects upon the structuring and operation of educational institutions. It is true that the possibilities of major breakthroughs in communication and teaching techniques cannot be foreseen with a degree of clarity which permits current planning based upon entirely new systems. However, these promising developments are made all the more significant by the current growth in policies and techniques or mechanisms for awarding formal college credit for learning informally acquired, and by an

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In confronting this prospect of continuing rapid growth and change, it seems evident both from the history of the community colleges in other states and from the response to these institutions here, that the program offered in the comprehensive community college will meet a continuing need.

A second area of continuing need for educational programming will undoubtedly be that offered by the four-year colleges--baccalaureate and advanced degree programs in the arts, sciences and professions. The historic concern for the advancement of knowledge through research and public service functions associated with the four-year colleges and universities can also be expected to be a continuing need in any technologically advanced society. Thus the need in the Denver Area for the types of programming now extended by Metropolitan State College and the Denver Center of the University of Colorado will surely continue, though changes must be expected in the areas of chief interest and importance and undoubtedly in the manner in which such programming is offered.

The concept of a Higher Education Center at Auraria permits a wide range of alternative lines of development both in the near future and in the long run. Such a Center makes it possible for essentially independent institutions to share programs, personnel and certain facilities which will greatly improve opportunity and the quality of education for the student at least cost to the student, parent and taxpayer. This cooperative endeavor provides an open-ended opportunity for the three institutions to develop programs and facilities which no one of them alone could provide. The sharing efforts of today may be extended or changed tomorrow, depending upon changing conditions, needs and opportunities. It seems apparent that the Auraria concept of independent, cooperating institutions provides greater flexibility for future development than an alternative which would scatter the present institutions in other locations. Three institutions utilizing facilities in a common area may organize their programs in very different ways in the future while continuing to put all of the available facilities to use. If one institution grows more rapidly than expected while another grows more slowly than expected, the needs of one can be met in the under-used spaces of another. One may establish an outpost campus, or operate portions of its program in "storefront" classrooms, without jeopardizing the use of facilities for the educational programs which remain.

The Commission and the Auraria institutions are interested also in providing for permanent campus facilities for the Community College elsewhere in the Metropolitan Area which are sufficiently large and appropriately located to accommodate selected programs of MSC and the Denver Center as well. Through such developments the range of programming available within the Metropolitan Area can be significantly expanded at the same time that some of the growth that would otherwise occur at the downtown site can be decentralized.

Colorado has undertaken major commitments since 1963 to provide in the Denver Area the range and extent of post-secondary educational opportunity long needed by its public and private enterprise and by its citizenry, young and not so young. Performing on these commitments by providing the facilities required to house the new programs for the thousands of youth and adults who are availing themselves of these opportunities,

remains to be accomplished. Failure to provide such facilities will lead to pulling the doors shut once again, and to costs in rents and larger construction charges which are growing more severe every year.

Seen from the perspective of 1980 and beyond, any such failure to respond to the needs and the opportunities of 1971 cannot fail to loom as a principal cause of a progressive decline, rather than a continued growth in attractiveness and strength, of the major population center of the state.

Role Statement--Community College of Denver

Program.--The Community College of Denver should be oriented to the City of Denver and to the entire metropolitan community with programs of two years beyond high school suited to the needs of youth and adults for both (a) "occupational, technical, and community service programs, with no term limitations," and (b) "general education, including college transfer programs" (HB 1448, 1967). The Community College of Denver should be the principal institution in the Denver area emphasizing programs of occupational education beyond high school level. To this end it should develop close working relationships with vocational programming in the public schools of the area, on the one hand, and with the baccalaureate programs in occupational areas at Metropolitan State College on the other.

Geographic Area Served.--The Community College of Denver is a community-oriented institution serving the five counties of the Denver Standard Metropolitan Statistical Area and adjacent counties. Especially pending the development of a community college system available generally to Colorado residents, existing community colleges will offer some occupational programs that are not available elsewhere in the region or in the state, and accordingly will attract some students from outside the geographic area principally served. It is to be expected that the Community College of Denver will offer a number of such programs, possibly indefinitely into the future.

Admissions Policy.--The Community College of Denver "shall have unrestricted admissions for high school graduates or students with comparable qualifications. In addition, any person, regardless of any previous academic experience, may be enrolled in any courses which he can reasonably be expected to successfully complete" (Section 10, HB 1448).

Student Services.--As an urban college oriented to the Denver Metropolitan Area, Community College of Denver should develop competent services of counseling and should financially and otherwise assist students with innate talent for its programs but with learning disadvantages. It is not expected that the Community College of Denver will provide student housing accommodations. It should develop strong intramural programs in physical education and recreation, and should not develop programs of intercollegiate athletics.

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Role Statement--Metropolitan State College

Program.--Metropolitan State College should be an urban-oriented four-year college offering baccalaureate programs in the arts and sciences, programs of more than two years in semi-professional technical education on a terminal basis and programs in selected professions including business, education and approved areas of the public and social services. It should contribute to the understanding and resolution of urban problems through programs of public service and research appropriate to its instructional goals. Its offerings should relate to lower division programming at the Community College of Denver, and to graduate programs at the Denver Center of the University of Colorado, without development of graduate programs at the College.

This definition of program, which the Commission believes to be in accord with law and with its recommendations in 1966 and early 1967 for establishment of a community college system, anticipates close liaison in the development of two-year programs of occupational education between MSC and the Community College of Denver, and the timely transfer to the Community College of operating responsibility for such programs. As the Community College of Denver becomes fully established in appropriate locations in the Denver Metropolitan Area, the phasing out of associate degree programs at Metro State should be initiated. In and after the academic year 1972-73, as may be shown to be practicable, two-year applied science programs would be offered at MSC only in exceptional cases approved by the Commission.

Geographic Area Served.--As one of the State Colleges, MSC will serve the entire state. However the urban emphasis in its programming and methodology will link this institution most intimately to Denver and the Metropolitan Area; most of its students will come from this area and most of its graduates may be expected to enter or remain in employment there.

Admissions Policy.--The policy in effect at MSC should remain until the early 1970's when the Community College system is in operation in the Denver Area in which area residents may find a wide range of programs available to all who seek to learn. At that time, admission requirements at MSC should be adjusted to provide reasonable assurance that admitted students can succeed in its programs.

Student Services.--As an urban college oriented to the Denver Metropolitan Area, MSC should develop competent services of counseling and of financially and otherwise assisting students with innate talent for its programs but with learning disadvantages. It is not expected that MSC will provide student housing accommodations. It should develop strong intramural programs in physical education and recreation. In accordance with understandings incident to the establishment of the College, no intercollegiate athletics programs should be developed which would require the participation or support of students as a condition of enrollment at the College.

Role Statement - Denver Center of the University of Colorado

Program.--The educational activities of the University of Colorado at Boulder, at the Medical Center in Denver and at the Denver Center are closely interwoven in the fabric of the Denver metropolitan area. The Denver Center has the unique role of fusing university-level programs with the needs of the urban population. The Denver

Center is a downtown University branch offering programs of instruction, research and public service--particularly professional programs and those with extensive urban involvement. Academic programs of high quality will continue to emerge and expand, with the educational needs of the Denver metropolitan community providing the primary developmental thrust.

Emphasis is being given to upper division and graduate work; the undergraduate programs are oriented to those students who plan to undertake graduate work or post-baccalaureate professional study. For the foreseeable future, graduate programs will continue to be developed cooperatively between the Denver Center and the Boulder campus and between the Denver Center and the Medical Center.

Strong research and public service functions which are directly related to the needs of the Denver community and the Center's teaching responsibilities will be enriched and strengthened.

Meaningful articulation of programs and academic relationships will be developed with Metropolitan State College and the Community College of Denver. However, institutional identification will be preserved in order to realize the special potential of each. The primary role of the Denver Center in the proposed Auraria Higher Education Center will be to provide graduate and professional education.

Geographic Area Served.--The Denver Center should continue to serve residents of the Denver Metropolitan Area. While some programs of the University may appropriately be based in Denver rather than in Boulder, the Denver Center should serve primarily as a Denver branch for the convenience of persons who live or work in Denver.

Admissions Policy.--Policies restricting admission of entering students should continue pending redefinitions appropriate to the evolving program indicated above.

Student Services.--As an urban branch of the University, the Denver Center should develop appropriate services of counseling and of financially and otherwise assisting students. The Denver Center should not develop student housing accommodations. It should afford opportunity for physical education and recreation experiences and should not develop programs of intercollegiate athletics.

Chapter 5

COORDINATION, PLANNING, AND GOVERNANCE OF HIGHER EDUCATION IN COLORADO

The Colorado Commission on Higher Education was created by the Legislature in 1965 and came into operation in June of that year. Its establishment followed a good many years of debate and experimentation as to ways to provide for a unified and long-range view of higher education in the state. Such a view was essential in order to assess current efforts, needed support levels, and desirable expansions. Over a period of years the Joint Budget Committee and the Legislative Committee for Education Beyond High School made significant efforts to fulfill this needed role. In the early 1960's in addition to these efforts, state funds were allocated for a staff directorate for the Association of State Institutions of Higher Education in Colorado, the voluntary association of public four-year college and university presidents, which made further and important contributions to this end.

But at no time was a structure devised that was acknowledged to be satisfactory. The establishment of the Commission was, in this context, an additional step in the search for an optimum structure.

The Colorado Commission on Higher Education

The Commission is a bi-partisan body of nine laymen appointed by the Governor with the consent of the Senate to have responsibility for planning for the further development of post-high school educational opportunities, and for coordinating the present institutions, "with due consideration of . . . the ability of the state to support public higher education"--all of this to be accomplished with recognition of "the constitutional and statutory responsibilities of duly constituted governing boards of institutions of higher education in Colorado." Provision is made for an Advisory Committee comprising designated representatives of both Houses of the General Assembly and of the several governing boards with a number of others to be chosen by the Commission. The Commission was authorized to employ an executive director to serve at its pleasure, and the director in turn, to employ staff within approved budgets.

Under the original act and amendments of 1970 the principal assignments of responsibility and authority to the Commission are these:

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Commission are these:

1. Relating to statewide planning: the Commission is directed to "develop and recommend to the Governor and General Assembly statewide plans for higher education" which are to include establishment of priorities for initiation of new programs and institutions, determination of roles of institutions and sectors within the system including the size of institutions, and establishment of relationship with the private institutions which will strengen the overall higher education resource of the state. Acquisitions of real property by any of the public institutions require CCHE approval. The Commission is empowered to delay for up to two years the entry of local district junior colleges into the State Community College System.

2. Relating to institutional planning: the Commission is to review and approve master plans which are to be developed by each institution, and program plans for the construction of specific facilities regardless of the source of funds. The law provides that "no capital construction shall commence except in accordance with" such approved master and program plans.

3. The Commission reviews and may approve or deny any new degree program including the initiation of any program which would lead to the establishment of a college, school, division, institute or department. It may review present programs and recommend modifications in such programs to the institution and governing board concerned, informing the Governor and General Assembly of actions resulting from such recommendations.

4. In accordance with overall state accounting systems prescribed by the State Controller the Commission is given the initiative in prescribing uniform fiscal reporting on higher education systems. The Commission is empowered to require submission of such information as it deems necessary other than student or personnel records of a confidential nature.

5. Initiative in developing budget request procedures and forms for higher education institutions is assigned the Commission subject to approval of the executive and legislative budget offices. The Commission reviews operating and capital construction budget requests and provides comments and recommendations including its judgments of priority to the Governor and General

Assembly.

6. Within a framework of planning which encompasses all state agencies the Commission reviews plans and operations of institutions of higher education relating to automatic data processing.

7. By virtue of appropriation to the Commission of all student financial aid funds, the Commission establishes guidelines for student financial aid programs, allocates funds for this purpose, and monitors institution programs through appropriate reporting procedures. (This provision of the appropriation measure for the fiscal year 1971-72 anticipates the development of proposals for a statewide aid program for legislative consideration.)

8. The Commission serves as the state agency to administer the federal Higher Education Facilities Act and other federal programs as assigned by the Governor.

The Colorado Commission on Higher Education is, in broad strokes, an agency intended to help the Governor and Legislature see the big issues in higher education and make well-considered decisions, whether in the establishment of new institutions, the closing out of old programs, the funding of new buildings, or the establishment of support levels for regular operations. It is an agency whose only reason for being is to strengthen the total system of higher education, an agency which must nevertheless disappoint some of the aspirations of individual institutions, and of individual communities, and of individual legislators, in the interest of proceeding according to priorities of the state.

The Initial Years

When the Colorado Commission on Higher Education was established in 1965, the four boards then having governing responsibility for the state colleges and universities acknowledged the need for a coordinating mechanism, but the implications of assigning to a new coordinating board some of the functions and authority previously exercised by the governing boards, or left unassigned, could be only imperfectly foreseen.

Since 1965, developments within the structure of the governing boards and in legislation concerning coordinating and governing structures have affected the higher education organization in Colorado significantly.

1. In 1965 the Trustees of the State Colleges in Colorado in effect served as a separate board for each of the state colleges. There was no Board staff until 1962; in 1965 there was only the Secretary and his clerical support. Institution administrations gave staff services to the Board, with the Secretary providing a "secretariat" function as distinguished from a planning or management function.

   Since 1965 this condition has changed and the change has markedly affected provisions for coordination of higher education. The Board has taken a number of steps to deal with the colleges as a unified group of institutions. It considers such matters as the development of new programs, formulation of

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budget requests, and faculty and student personnel policies for the five colleges as they interrelate within a system. To accomplish these policy and procedural changes the Board has leaned increasingly on its central staff as well as on systemwide committees.

2. The State Board for Community Colleges and Occupational Education was created in 1967. The Division of Occupational Education is essentially the office of the former Board for Vocational Education. The Division of Community Colleges is the central office for the State Community College System and successor to the junior college office of the State Board of Education respecting the local district junior colleges. This office exercises the same range of coordination and governance which the Trustees of the State Colleges exercise over their institutions. Unification under this one board of functions and authority relating to the two-year colleges and to vocational education including proprietary schools has removed the structural barriers which are found in most states to effective planning and coordination of occupational education at all levels.

3. Suggestions for changes in the Board of Trustees of the Colorado School of Mines were made by the Task Force appointed by the Commission to study the role of the School, in its report of January 1968: "The Task Force recommends that the term of continuous service of individual members be limited and that the Board have better representation from non-alumni and from other activities than the mineral industry. A somewhat larger board might also provide a means whereby the voice of the general community can be heard."

4. Limitations in some of the arrangements respecting the Regents of the University of Colorado have been apparent. The small size of the Board combined with its selection in partisan elections brings into undue prominence issues that divide the Board. The constitutional provision that the University's chief executive officer is also the Board's presiding officer forces the University President into the untenable position, when the Board is split, of determining issues of policy that are the responsibility of the Board.

5. At the state coordinating level there have been significant changes since 1965 also. The Reorganization Act of 1968 created the Department of Higher Education and designated the Executive Director of the Commision as its head. It brought the Commission and the institutions of higher education and their governing boards within the Department but left unchanged their relationships to executive and legislative agencies, including the head of the Department. It also brought into the Department the State Historical Society and Council on Arts and Humanities, with provision that the Executive Director's authority respecting these two divisions would be the same as that assigned by the Act to other heads of executive departments.

Each year since the establishment of the Commission there have been proposals for modifying the organization of higher education. A number of elements in the structure and operation of higher education governance and coordination have contributed to questioning whether revisions--heroic or modest--were needed:

- Some have felt that the Commission is a mere advisory body in an area of state enterprise in which aggressive direction from a central board is needed.

- Governing boards and the Commission alike have been frustrated by the overlapping of their functions and authority in certain areas, an overlapping which at least in part is inherent in any system of coordination.

- Governing boards and the Commission, along with the institutions, have also been frustrated by a budgeting system in which governing boards, the Commission, and the Executive Budget Office as well as the Legislative Joint Budget Committee review, for the most part independently, the budget proposals of each institution. A similar process of review is repeated in some other areas of operation such as capital construction projects, and contributes to a widely-shared feeling that the total structure obstructs rather than facilitates action. Though the coordinating body is only part of the problem of multiple review, this body does contribute to a search for an "easier way."

- The institutions and governing boards tend to believe that the Commission should be their "advocate" before the Governor and Legislature, relaying institution requests to these officers and leaving to Governor and Legislature the decision as to how much support for higher education should be provided, while the Commission believes that such a role would represent no useful service to the state or the institutions.

- Divisions within the Board of Regents of the University of Colorado have been interpreted as contributing to unrest within the University and to instability in the presidential office at the University. Inability of the Legislature to modify the structure and essential powers of the Regents because of the Board's constitutional position has influenced the content and format of several proposals for restructuring of higher education more than have concepts of sound organizational structure.

In the 1969 legislative session many proposals for reorganization were advanced. It had been proposed in each of the prior three years that a single board be created to govern all of the senior colleges and universities. Another proposal introduced in 1969 was that Colorado State University, the Colorado School of Mines, University of Northern Colorado at Greeley, and the centers of the University of Colorado be made "campuses, centers and branches" of the University of Colorado at Boulder under a single board of Regents appointed by the Governor. Under another proposal, these same units were to become components of the University of Colorado governed by the present Regents. Yet another idea was the UNC be administered by the State Board of Agriculture along with CSU, and that Fort Lewis College be transferred to the State Colleges board. Still another was that the state abandon altogether its efforts to plan and coordinate in higher education and abolish the Colorado Commission on Higher Education.

At the conclusion of the 1969 Session the Committee on Organization of State Government, a Legislative Council committee comprising representatives of both parties in both houses of the General Assembly, was assigned to undertake a study of higher education structure.

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Initiating its studies in Summer 1969, the Committee gave consideration initially to two alternative approaches. The first anticipated creation of a single governing board for the two comprehensive universities--the University of Colorado and Colorado State University--and the Colorado School of Mines. Because of the constitutional status of the Regents of the University of Colorado, such an action could be accomplished only through constitutional amendment. This alternative also anticipated transfer of governing authority for Fort Lewis College from the State Board of Agriculture to the Trustees of the State Colleges. The second approach anticipated some expansion in the functions and authority vested in the Colorado Commission on Higher Education without major changes in the functions and authority of governing boards. Preliminary discussions and hearings led the Committee to conclude that there was little support for the first alternative. The Committee then developed a measure to give effect to the alternative approach which was introduced as House Bill 1010. After extensive hearings in both Houses, the bill was enacted late in the 1970 legislative session, becoming effective July 1, 1970.

The amendments of 1970 enlarged the Commission from seven to nine members. Substantial modifications were made in provisions relating to the Advisory Committee. Each governing board was authorized to designate any person of its choosing, not necessarily a member of the board--a change intended to permit designation of institutional officers which reflected concerns, among other things, that channels of communication between the institutions and the Commission and its staff should be enhanced. The amendments also authorized the Commission to appoint not more than five persons to the Advisory Committee (the Commission subsequently appointed the State Commissioner of Education, a school superintendent, a student chosen by a statewide student organization, the president of one of the private colleges, and the head of a philanthropic foundation).

The principal elements of the amendment were twofold: it gave much greater emphasis to statewide and institutional planning; and it strengthened the role of the Commission in fiscal reporting and budgetary affairs. H.B. 1010 served to clarify the responsibilities of the coordinating board in Colorado, and to expand its authority in a number of areas.

The legislation of 1970 coming as the result of intensive legislative consideration, and strengthening the coordinating board materially, has not ended the quest for simpler and surer lines of function and authority. A bill for a constitutional amendment to create a single statewide governing board was introduced in 1971. The measure was not taken up for consideration. However other developments continue to point to issues that call for resolution.

There is broad agreement within the University of Colorado, Commission, and Legislature that modifications are needed to enlarge the Board of Regents and to provide for a presiding officer of the board other than the University president; legislation was introduced in 1971 looking to a constitutional amendment to accomplish these changes. Many persons feel, members of the Commission among them, that Regents should be appointed by the Governor rather than selected through partisan election, but a majority of the Regents has opposed this change.

Legislative dissatisfaction with a section of the system was revealed in the action taken in 1971 to reduce drastically the funding and thus the staffing for the

Trustees of the State Colleges. It appears that a more directive voice within the state college system is desired by the Legislature. The appropriation of all student aid funds to the Commission for allocation under guidelines developed by the Commission seems to express a similar intent.

An urgent problem affecting higher education organization has been presented by the evolution of what once were extension outposts of the University of Colorado at Denver and Colorado Springs into institutions which both the Commission and the North Central Association of Colleges and Secondary Schools believe should be recognized and sustained as essentially independent institutions within the statewide system of higher education. The University of Colorado has not opposed the view that the Centers should relate directly to the educational needs of the state system and of the communities in which they are located and thus be cut free from their role as component and necessarily inferior segments of the "Boulder campus." However a constitutional provision that the University of Colorado will be "at Boulder" together with the judicial history of this provision stand in the way of operation of such quasi-independent units by the Regents of the University. Under these circumstances governance of the Centers will necessarily be assigned to another board or a constitutional amendment will be required to authorize operation by the Regents of the University of Colorado.[1] In dealing with the issue of governance of the Centers it seemed to the Commission appropriate that the Legislature take a fresh look at the principles upon which governance and coordination are based in the present Colorado system, in order that the issue of governance of the Centers might be determined with reference to a statewide and long-term rationale.

It was in light of these several factors that the Commission in April 1971 proposed that the Legislature provide for a study of the state's structure for governing and coordinating post-secondary public education. Such a study was authorized and a reconstituted Committee on the Organization of State Government was assigned the task. Its work is now under way.

Goals for Higher Education Organization

There is no agreement even among scholars in the field that any one system of statewide organization in higher education is inherently better than any other. Though there is no national "model," there are certain goals for a higher education system and means for fostering such a system which are broadly accepted.

First, higher education that is relevant to the needs of a highly diverse population, to education for effective citizenship and to the requirements of our varied public and private enterprise, must include a wide span of learning opportunities. Higher education today has to be a far cry from that of the early 1800's, when law, medicine, college teaching and the ministry were the only pursuits for which a college education was expected.

Thus, second, the development of an effective overall program of higher education is a many-sided task. No single institution can excel across the wide and varied range of needed programs.

[1] See above, page 31.

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As in other areas of human enterprise, this means, third, that specialties have developed among higher education institutions. In the mid-19th century, so far as public education institutions are concerned there were only the universities. Later the land-grant colleges and the normal schools and state colleges developed, meeting needs quite different from those fulfilled by the universities; and in recent years the two-year community junior colleges have emerged as a major and rapidly-growing component of the total system of education beyond high school. In most states today in the public sector of higher education there are comprehensive universities, general colleges which typically have developed out of the former normal schools and teachers colleges, two-year community junior colleges, and occasionally, specialized institutions such as the Colorado School of Mines.

To take the basic responsibility for fostering, evaluating, and determining the policies governing public higher education institutions in America, the board of lay citizens has acted as an intermediary between the political officers of government (executive and legislative) on the one hand and the professionals who actually operate the institutions (faculty and administration) on the other. The usefulness of lay governing boards is proven in the unparalleled development of post-high school educational opportunies in this country as compared to any other. Without claiming that the lay board is the only factor in this development, it seems evident that the lay governing board has been an effective liaison between the institutions and political officers who are directly answerable to the people within the framework of our constitutional system. The lay governing board represents a fourth characteristic or principle which helps point to a desirable organization structure.

It is notable that the essential tasks of the lay board involve the setting, within a statewide policy framework, of major policy guidelines for institutional growth, the development of needed support, and the selection of the professional leadership. Lay boards discharging essentially these same tasks have been used in America to operate the public schools as well as individual colleges and universities and systems of colleges and universities.

To be effective, fifth, lay boards comprising citizen members whose full-time occupations demand most of their energies, require professional staff assistance in the formulation and follow-up of the board's business.

A sixth characteristic or principle affecting higher education structure is that a single lay body within each state is usually found to be insufficient to operate a large number of institutions responsible for a wide span of educational programming. With so many educational components, a single board can devote little time to the affairs of any, and the board staff rather than the board itself becomes the critical agency for policy making. In most states there are separate boards concerned with the public schools, the post-secondary education system, and post-high school institutions or groups of institutions within that system.

Seventh, it is natural and appropriate that the professional head of each institution be essentially single-minded in his loyalties and dedication to the objectives of his own institution. His partisanship is partially duplicated in the board he serves, but as a citizen group drawn from the wider community the board should be sensitive to the wider needs and goals of the state.

With the institution head dedicated to the focused goals of the institution, and with the governing board charged with fostering and determining the guiding policies for an institution or group of institutions, it is essential, eighth, that means be provided for the effectuation of an overall view of educational needs and goals of the state and for an overall assessment of performance. In the past when higher education was a much smaller segment of state activity, governors and legislative committees attempted to fulfill this function. Under present circumstances, all but two states (Delaware and Vermont) have found it necessary to provide for public higher education the kind of overall planning and coordination by a lay board and staff which for many decades the states have provided for public school affairs.

Organization of Higher Education: Major Alternatives

The twin functions of operating the higher education institutions and of planning for needed new programs within a state are organized in almost as many different ways as there are states in the Union.

In all the states, boards comprising laymen (sometimes with governmental officers added, ex-officio) are vested with responsibilities of operating the existing institutions of higher education. Typically, boards of trustees (sometimes called regents or overseers or visitors or by other titles) are empowered by law to hold property, approve courses of study, prescribe qualifications for admission of students, appoint institution officers including faculty members, fix salaries, provide the buildings, award degrees and diplomas, and generally to have direct operating responsibility for the institution or institutions governed. Many of these functions are delegated to administrative and faculty officers and groups, though the legal responsibility is vested in the board.

Such boards of trustees may, and particularly in the public sector of higher education often do, administer more than one institution. Such boards which have legal responsibility for the operation of higher educational institutions are characterized as governing boards.

In the past 20 years a second type of board, known as a coordinating board, has become common among the states, particularly in states having substantial numbers of and variety among its public higher educational institutions. Coordinating boards are assigned a statewide responsibility, usually applying to all of the existing two-year and four-year public (and sometimes the private) institutions, but extending beyond the present institutions to a concern for those post-secondary educational needs of the state that are not yet met. Coordinating boards thus have responsibilities both to coordinate the present institutions and to assess statewide needs and develop plans for meeting such needs.

The two functions--governance and coordination--are closely interrelated. Institutions can hardly function effectively without awareness of the statewide needs and of activities going on in other places. Planning and coordination, on the other hand, must take account of current efforts and needs in the existing institutions.

To organize the total higher educational system so as to foster the individuality of institutions which meet differing aspects of the total need, without promoting local and partisan influence that will obstruct the accomplishment of statewide objectives and

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priorities--this is the task the states face in developing structures for governance and coordination. Major alternatives, appropriately polarized to highlight distinctions among them, are characterized below.

1. The Single Governing Board for Higher Education

One statewide board of higher education, appointed by the governor with senate confirmation, would carry out the functions of planning and coordinating and of governing all of the institutions of higher education. It might also operate various federal programs of statewide assistance.

The single governing board has the advantages and the limitations that go with central planning and control. Lines of authority are readily understood--they run exclusively to the governing board, except as that body shares its authority by delegation to the institutions governed. Since there would be no separate coordinating board, there is no confusion of function or authority between the governing board, with its operating responsibilities for the institutions, and a coordinating body having superior powers in the areas of evaluation and planning relative to statewide goals.

With a single board responsible for all of the institutions, centralized planning and direction for institutional development would be possible. Needless duplication of programs, staffing, or facilities can readily be avoided.

The single governing body has a number of limitations:

1. It involves as lay persons in the planning and development and support of higher education only the number of its own members. The limited number of laymen involved reduces the effectiveness both of lay control and of lay representation to the public of the nature and the needs of higher education.

2. The single governing board which has responsibility for eight or ten or more colleges and universities has too wide a variety and too numerous a group of institutions to be able to establish a deep knowledge of any one of them. This reduces the board's ability to respond effectively to the request of the president of any institution for guidance; or to have the knowledge necessary to determine issues arising between institutions or between any of the institutions and the board's own staff.

3. It is possible that a single governing board might operate the two-year as well as the four-year institutions, though proposals advanced in Colorado in recent years have not placed the community junior colleges within the proposed central structure. To include the junior colleges is surely to increase the number of institutions governed to unmanageable proportions and to risk the overshadowing of their unique programs by the more traditional four-year schools; to leave them out is to create a need for a separate body to coordinate the two-year and senior college systems.

4. To get its work done a single governing body must either delegate large elements of authority to the institutions, in which case its potential for centralized evaluations, planning and control is reduced; or it must lodge

this authority in the board's staff. The latter practice creates a kind of super-presidency and a central bureaucracy upon which the board necessarily depends, but which is a long step removed from direct knowledge of the campuses. The effect of a single governing board is to reduce the power of laymen to control higher education either by vesting that power in a central staff or by leaving the development of the institutions largely to the presidents.

5. The single governing body may lend itself to an excessive standardizing among the institutions governed. The gains in rational procedure and commonality of practice may be more than offset by losses in initiative and innovation which are the natural product of individual freedom and enterprise.

6. Operating functions and planning functions appear too often to be mutually exclusive responsibilities of single executives and boards of trustees. While forward planning is a major responsibility of any executive person or body, the difficulties executives have in finding time for study and reflection relative to the future are well known. Planning rather than operating is the central responsibility of a coordinating board.

II. A Governing Board for Each Institution Within a Structure of Coordination

Opposite in concept from the single governing board is a plan under which each institution would have its own governing body with all of the governing boards subject to the coordinating powers of a central planning and coordinating body such as the Colorado Commission on Higher Education.

Under this alternative, the head of the institution and his staff would constitute the only staff that the governing board has or needs. When boards operate groups of several institutions they require a central staff of their own to review and report upon institution proposals and performance indicators. Thus, though providing a separate board for each institution might appear to be a proliferation of boards, this plan actually would reduce the numbers of staff members needed to serve the boards.

In addition to minimizing the need for special board staff, the advantages of providing a governing board for each institution within a structure of coordination include the involvement of a large number of lay persons in the development of higher education and the provision of a knowledgeable group of laymen who are committed to the well-being of each institution and to the review of policies and programs advanced by the college administration. Lay control is emphasized.

Disadvantages include the possibility of a fragmented growth of higher education through excessive competition among institutions and local pressure in behalf of particular institutions or programs. The power of large institutions as compared to small may be emphasized by such an arrangement.

Whether the disadvantages can be avoided and the advantages realized will depend upon the authority assigned to and the effectiveness achieved by the coordinating mechanism. With adequate authority and staff to permit the coordinating board to give

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effect to its standards and policies, this arrangement may attain the unity and direction of the statewide governing board system while preserving the strengths inherent in institutional governing boards.

III. Governing Board for Major Sectors Within a Structure of Coordination

Something of a middle ground between the single governing board of Alternative I and the decentralized-but-coordinated system represented by Alternative II is the proposal that the structure of higher education comprise governing boards for (a) university, (b) college, and (c) community college sectors, with a coordinating commission. Each of the three boards would be in some respects a "coordinating-governing" board.

In practice, most state systems of coordination are variations of this "middle way." In many states the colleges which emphasize the preparation of public school teachers are governed by one board of trustees. The state university or universities often have boards of their own, though for historical reasons varying institutional groupings are found. In Colorado thus, the Trustees of the State Colleges govern five of the six state colleges, with the sixth linked to CSU through the State Board of Agriculture--a circumstance explainable only by the origins of Fort Lewis College as a two-year agricultural and mechanical institute. The University of Colorado and Colorado School of Mines have boards of their own. When a state community college system was established (1967), Colorado provided for a single board for all state system colleges and constituted this board as the state vocational education board as well.

Carried to its logical conclusion an organization of the governing structure for higher education by major sector might give emphasis to the special qualities of each of these sectors of higher education--the comprehensive, open-door feature of the community colleges; the teaching emphasis which characterizes the state colleges; the particular emphasis upon advanced levels of instruction and upon research at the universities. Since one board would be governing all of the institutions of a kind, this plan might also serve to tighten up control over program development, to encourage the sharing of resources, and to avoid needless duplication within each sector.

Possible disadvantages include the following:

1. "Coordinating-governing" boards must have staff assistance to review information and proposals coming from the institutions and to prepare recommendations for the board; such boards can hardly exercise their responsibilities of evaluation and decision-making without staff support. However, review at the governing board level does not remove the need for a subsequent review at the coordinating board level, where systemwide and statewide criteria must be applied. Thus some overlapping of authority and duplication of staff effort are inevitable.

2. Creation of a governing structure parallel to the functional organization of higher education may lead to competition for students and for resources between the major sectors of higher education. There is evidence that this has happened in California. This problem can be exacerbated if one board gains, or tries to gain, greater power and influence than others.

3. Because they govern a number of institutions which have strong constituencies among students, alumni, and local residents, coordinating-governing boards may be in a position to muster significant political support in behalf of their interests as compared to the systemwide and generalized goals and policies of the statewide coordinating boards. The long-range, generalized goals and policies of the statewide board may prove less compelling politically than the pointed objectives of partisan groups, at any one time.

Commission Viewpoints

The basic question to be determined is whether a system of statewide governing or of statewide coordination is desired.

The Commission favors a system built upon the principle of coordination. It believes that the needed functions of statewide evaluation and planning will get more attention from a coordinating board than from a statewide governing body weighted down with the problems of operating a great many institutions. It believes that institutions will exhibit greater imagination and capability in dealing with their special opportunities and problems when a maximum of authority consistent with systemwide goals and priorities is left at the institution level. Institution identity and aspirations are in truth the "engine" that drives the higher education machine. In addition, freedom from partisan interference is better assured when power is decentralized; and higher education without that freedom is no higher education at all. Moreover a system of coordination does not require the scope and size of central staff needed by a statewide governing board which has all of the responsibility for all of the several institutions of higher education.

Dr. Lyman Glenny of the University of California, former Executive Director of the coordinating board in Illinois and a leading authority in the field, has pointed out that organizational structure becomes significant in the way it channels power. The statewide governing board is the institutions it governs--its efforts are directed to their more effective operation and it naturally becomes their spokesman. The very needs of its current institutions undoubtedly deflect the attention of such a board from activities of evaluation and planning that may point to very different ways of getting the job done. On the other hand, Glenny suggests that a structure in which there is a separate board for each institution would leave, in effect, a monopoly of power in the hands of the statewide coordinating board because no one institution could muster much support or attention against the central authority. It would also, he observes, create boards with very different power positions--as for example, between the University of Colorado and one of the smaller junior colleges.

From the standpoint of power relationships, Glenny suggests, the coordinating board which works with a number of governing boards some or all of which govern two or more institutions promotes a balance of power between the institutions and the state which can be advantageous both to higher education and to the state.

At the time of publication of this report the Commission is formulating additional facts and judgments relating to specific issues in the structure of higher education in Colorado, for presentation to the Committee on Organization of State Government.

Chapter 6

ESTIMATING THE COSTS

Colorado and the nation long have been committed to the expansion of educational opportunity. Great benefit has resulted from that commitment. In the face of contemporary internal and international problems--political, social, economic, moral--it would be foolhardy to say that any given amount of educational opportunity is enough.

Nevertheless, there is a conflict between educational needs and available financial resources and this conflict underlies virtually every educational policy decision made by the Commission, Governor and Legislature. If we emphasize open opportunity and a widely distributed and comprehensive mix of programs, we promote enlarged public costs because charges to the student will be kept low and student numbers will be large. If we emphasize the goals of efficiency and balanced budgets we will favor higher student charges and limit easy access.[1]

Decisions must be made by responsible public authorities as to how much of what kinds of educational programs will be provided under public auspices. Wise decisions on such issues can be made only on the basis of a comprehensive and long-range view of needs and programs. The purpose of this report has been to provide such a view, proposals concerning needed programs and policies, and in this chapter to identify cost and income implications to assist in dealing with the conflict between needs and resources.

What Do We Propose to "Buy"?

The system of higher education that exists in 1971 and the evolving system that will be operating in 1980 are very different from the system that was available to Colorado residents as recently as the mid-1960's, and despite inflation it is a system that is markedly less costly to many thousands of students than was the system of only a half dozen years ago.

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[1]Howard R. Bowen, "Finance and the Aims of American Higher Education," (an address at the National Conference on Higher Education, March 1970.)

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n Higher Education, March 1970.)

Actual costs of higher education to the student may be grouped in three parts: (1) payments to the institution such as tuition and costs incident to education, such as books; (2) additional living and travel costs resulting from away-from-home education; and (3) income foregone while the student is in college--the largest part of his cost. During the 1960's, through its expenditures for higher education, Colorado developed a number of new institutions which have made it possible for thousands to attend college while continuing their employment and while living at home and thus avoiding the second and perhaps part or all of the third of these costs. During the 1970's we can expect also an acceleration of programs already begun under which learning acquired in nontraditional ways will be recognized by institutions of higher education toward formal educational attainments.

Students and parents as taxpayers confronting an increasing tax and tuition bill for higher education should recognize that the total costs for educational opportunity may be declining even when tax and tuition costs associated with higher education increase. Whether the individual student opts for a nearby college to which he can commute, for self-education built on nontraditional lines, or for the more costly residential college tradition, within the system as a whole the development of commuter institutions and other new approaches has an economizing effect. In 1971, looking ahead to future costs of higher education, Coloradoans can take a different view than would have been possible in 1961 when with limited exceptions, "going to college" meant "going away to college." In those not-so-long-ago years, going to college necessarily involved significant costs beyond tuition, fees, transportation and books--costs which in fact prevented many from going to college altogether.

The program of higher education proposed by the Commission is a program that upon the whole helps minimize the cost to the individual student and the parents.

It is a program which promises to grow substantially during the 1970's, but at a rate considerably reduced from the growth rates of the 1960's. Alternate projections of enrollment have been presented which indicate a growth from the 102,494 students in the public institutions in Fall 1970 to a number somewhere between 140,263 and 159,577 in 1975 and between 158,366 and 183,970 in 1980. This is a range of expected growth to 1980 that may be fewer than 60,000 or as many as 82,000 part-time and full-time students. At most this will be a good deal less than a doubling of

enrollments during the decade, and the growth may be as little as 60 percent--compared to a growth of 180 percent during the 1960's.

This rate of growth will be easier for the expanding Colorado economy to handle; but yearly increases that may range up to ten thousand part-time and full-time students in the next few years are nevertheless substantial and not to be wished away.

The Colorado system of 1970 and 1980 is progressively different from that of the past in another important respect. In the early 1960's the Colorado institutions of higher education were remarkably alike in their aspirations if not in the actual character of their programs. With minor exceptions all sought students from outside their own communities, and in part they sought them by offering the widest possible range of programs appropriate to baccalaureate institutions or to junior colleges interested in preparing students for transfer to such institutions. In the 1970's, distinctive roles for various types of institutions and for the institutions individually have been drawn, and while there is further progress to be made in this respect, there is more differentiation among the two-year and senior institutions than in the past.

Enrollment distribution within this changing system is decidedly different with a proportionate shift away from the university sector (CU, CSU, CSM) where the nature of the program makes the per-student costs highest. In 1965, enrollments were heavily concentrated at Boulder and Fort Collins:

	1965 Enrollment	
	Number	Percent
Universities (CU, CSU, CSM)	35,565	59.3
State Colleges (includes Fort Lewis)	17,713	29.3
Two-year Colleges	6,939	11.4
Total	60,217	100.0

By 1970, actual fall headcount enrollment distributed itself as follows:

	1970 Enrollment	
	Number	Percent
Universities (CU, CSU, CSM)	48,832	47.6
State Colleges (includes Fort Lewis)	32,150	31.4
Two-year Colleges	21,512	21.0
Total	102,494	100.0

During the 1970's this impressive shift in the direction of the community colleges will continue. Categorizing enrollments at the Colorado Springs Center with the colleges in line with the Commission definition of role and function of this institution, the distribution by sector in 1975 and 1980 is expected to be as follows:[2]

[2]The proportions are based on Projection B numbers distributed by sector in proportions indicated by CCHE revised June 1971 institutional projections.

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	Expected Distribution of Enrollment			
	1975		1980	
	Number	Percent	Number	Percent
Universities (CU, CSU, CSM)	53,300	38.0	56,220	35.5
State Colleges (includes Fort Lewis)	47,689	34.0	56,220	35.5
Two-year Colleges	39,274	28.0	45,926	29.0
Total	140,263	100.0	158,366	100.0

In fact the distribution among sectors by 1980 will likely be close to one-third each. During the 1970's, under the policies recommended in this report concerning roles of the several institutions and concerning their ultimate size, with limited exceptions the state college institutions and the University of Colorado Boulder campus will fill to capacity (Tables 7 and 8). By 1980 CSU is expected to be within about 3,000 of the 23,500 maximum which the University and Commission have agreed upon. The institution at Colorado Springs may still have considerable growth potential, depending upon the size for which the institution is master planned as its role and future are more surely determined during the next several months. With enrollments in state institutions continuing to increase as it appears they will through the decade and on into the 1980's, by 1980 the present four-year college and university system will be substantially filled. While additional baccalaureate degree opportunities will doubtless be made available in Western Colorado and through various types of innovative programs, the progressive filling of many of the four-year schools combined with the maturing of programs in the new community colleges makes it seem likely that an even larger proportion of students than indicated above will enroll in two-year colleges.

This trend toward an equal distribution of enrollments among the three sectors and away from a distribution which in 1960 saw two-thirds of Colorado's public institution enrollments in the universities (CU, CSU, CSM) means a very great enlargement and enrichment of opportunity for education beyond high school, in view of the marked differences between the programs and learning experiences available at, say, the University in Boulder and the community colleges at Colorado Springs or Greeley or Denver. Within the total system it means less relative emphasis upon academic and professional education and more upon occupation-oriented programs in both two-year and four-year settings. In terms of cost to the state it means better allocation of resources because by no means do all students need or desire or have the qualifications for only one type of post-secondary education, whether that one type be the traditional university or the new vocationally-oriented community college. It means, also, less cost to many students and parents because many students can tailor their post-secondary education not only to their own educational goals but to their circumstances of employment and home life.

Projecting Operating Costs

It is arguable whether it is desirable and helpful to project future operating costs of the higher education system. This is so partly because projections of costs in one sector of public enterprise are of doubtful utility in the absence of projections of costs and of revenues throughout state government. Another factor that significantly reduces the value of cost projections is the fact that future costs will obviously depend upon future policies and programs. Cost projections either tend to build in the unfortunate assumption that current policies and programs will be continued, or they must be

based upon a prediction of what future Governors and Legislatures will ordain--a practice suited to fools and to be avoided by agencies of the executive branch. The Commission submits that the most important policy questions are not those of cost but those issues of need and of opportunity dealt with in the preceding chapters. Some history relating to higher education costs and some of the methodology of projecting future costs is germane nonetheless, though the Commission suggests that the specific dollar numbers envisioned as possible down the road should be regarded as illustrative rather than definitive.

To estimate future costs of a higher education program involves even more uncertainties than projecting future enrollments, for future costs depend not only upon those uncertain future enrollments but upon other such unpredictables as:

1. Amount of inflation within the general price structure;

2. Inflationary pressures special to education such as teacher salary costs--a factor of particular significance since these costs represent roughly one-half of the total cost in the typical higher education institution;

3. The amounts, and also the types of federal aid (more aid to institutions should restrain increases in costs to the state; more aid to students would probably, in Colorado, increase numbers in the public colleges and therefore increase costs to the state);

4. Tuition policy changes;

5. Introduction of new state programs such as support for vocational education, which have had major increases during the past few years;

6. Shifts in types of programs offered and among enrollments in various programs--with impact upon overall costs resulting from cost differences among programs.

Some of these factors are subject to control by the Colorado Governor and Legislature but many are not. Some are the result of national policy or influence. In some cases--such as inflation--there is no authority at any level of government who can establish the policy and turn the proper knobs to assure the desired result.

While these circumstances make prediction hazardous, some useful insights can be gained from reviewing expenditure experience of the past.

The 1960's were years of very rapid expansion in higher education in Colorado, as we have seen. During the ten years, enrollments in the public colleges and universities increased two and a half times. The costs of educating each full-time equivalent student were increasing along with the costs of nearly everything else. According to a Commission study, in the six fiscal years between 1963-64 and 1969-70, costs per FTE student in the Colorado four-year public institutions increased 33.3 percent, an average annual increase (with compounding) of 5 percent--about half attributable

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These expansions occurred in a decade of rapid growth of fiscal resources, and expenditures for higher education increased even faster than the student numbers. In 1969-70, with two and a half times as many students as in 1960, estimated expenditures for operating purposes in the two-year and four-year institutions were more than four times (408%) those of 1960-61. Expenditures rose from $26,847,470 to $109,564,586 during the decade (see Appendix A).

Similar analysis of the growth of costs within the Department of Higher Education which are not directly related to students in the two-year and four-year colleges and universities is not feasible because non-student-related costs have fluctuated widely in consequence of changing state policies--even with such organizational changes as the establishment of the Department of Higher Education. By 1970-71, expenditures associated with Colorado General Hospital and the Psychiatric Hospital were estimated at $18.5 million. Appropriations earmarked for Occupational Education, most of it in the high schools, came into the higher education budget in 1967-68; in 1970-71 they exceeded $14 million. More than $9 million went for the Agricultural Experiment Station, Cooperative Extension Service, and State Forestry Service (the last of these has been treated as part of higher education since 1969-70). In 1970-71 more than 20 percent of the funds attributed to the Department of Higher Education were thus in expense categories not related to research and the instruction of students on and off campus.[4]

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[3] During this period the Consumer Price Index rose from 106.7 to 128.2 percent of the 1957-59 average, representing a decrease of some 17 percent in purchasing power of the dollar (CCHE, Analysis of Operating Expenditures, op.cit.) Thus about half of the cost per student increase during the six-year period was attributable to inflation and half to such factors as relative increases in faculty growth in higher cost graduate programs and programs in occupational education. Shifts in funding and accounting methods in two-year institutions during the 1960's were such that these institutions' cost experience is not readily available. However there appears to be no reason to assume that future cost experience in the two-year sector will move in a trend line significantly different from that of four-year institutions.

[4] The Legislative Council publication, Trends in State Finance, 1946-67 and an update through 1970 to be published in Fall 1971 trace state expenditure and income patterns over more than two decades. The report takes expenditures as reported by the State Controller. For higher education, these figures include some but not all capital construction; and expenditures of the University of Colorado are included in categories such as sponsored research and auxiliary enterprises (e.g., student housing) not reported for other institutions and not appropriately treated as state expenditures. Though these figures thus are not comparable with the Commission computations reported here, the Report shows expenditures in higher education in 1970-71 that were 367 percent of those of 1960-61, having risen from $56,578,000 to $207,342,000 during the decade.

Estimates of future operating cost in the public colleges and universities may readily be made by developing stated assumptions about costs per FTE student and applying them to projections of future enrollment. The technique and mechanics are simple; the development of reasonable assumptions is critical. For illustrative purposes a projection of operating costs is set forth below, based on the following assumptions:

1. The estimate of future full-time equivalent enrollments used in this example is based on enrollment Projection B, the low projection.[5]

2. Cost per FTE student will continue in the future the average annual cost increase of 5 percent, compounded, which has characterized the past half dozen years.

Projection of Students and Institutional Costs, 1970-80

	(Actual) 1970-71	1975-76	1980-81
Fall Headcount (Proj. B)	102,494	140,263	158,366
Fiscal Year FTE Students	85,841	121,299	135,229
Cost per F.Y. FTE Student[6]	1,517	1,937	2,472
Est. Total Expenditures (all fund sources)	$130,220,797	$234,956,163	$334,286,088

If one were to assume that inflationary forces will be no greater than they have been in the past; that faculty salaries--which comprise about 50 percent of the entire cost of higher education--will rise according to average wage/salary increases rather than somewhat in advance of other fields as they did during the 1960's; and that additional economies will be introduced in the management of higher education, one might assume that annual increases in cost per student will be 3.5 percent rather than 5 percent.[7] At the same enrollment levels as in the above example, a 3.5 percent annual increase in cost per full-year FTE student would produce the following projection of costs:

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[5]Since Projection B is a projection of headcount enrollments and budgetary projections necessarily are based upon estimates of full-time equivalent students, the example relates the Projection B numbers to the Commission's Revised 1971 projections (which show FTE as well as headcount figures). Thus provisions are made for trends in the enrollment of part-time students, evening and summer enrollments.

[6]This is the total cost per student. (The 1970-71 base figure is from Budget Recommendations, 1971-72, Sched. 6.) Note that tuition charges are based on Educational and General cost which excludes from total cost such expense categories as student aid, intercollegiate athletics, capital outlay, and most rental items.

[7]A study by June O'Neill for The Carnegie Commission on Higher Education (Resource Use in Higher Education: Trends in Output and Inputs, 1930 to 1967) indicates that the costs of producing a credit hour of instruction increased an average of 3.4 percent annually over the 38 year period covered in the study (pp.37-38).

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Fiscal Year FTE Students	85,841	121,299	135,229
Cost per F.Y. FTE Student	1,517	1,802	2,140
Est. Total Expenditures (all fund sources)	$130,220,797	$218,580,798	$289,390,060

Increases in number of students beyond Projection B numbers--a distinct possibility because of the conservative growth assumptions upon which this projection is based--obviously would increase total expenditures, at either the 5 percent or 3.5 percent level in annual increase in cost per student. Similarly, costs of the higher education program may be further increased by expansion of services not related to numbers of student credits produced in classrooms and laboratories such as public broadcast television and other community services.

The illustrations above indicate that if enrollments in public higher education grow during the decade as estimated in Projection B, total costs of operating the public colleges by 1980 will be 2.6 times the 1970 level if costs per student continue to increase on the average of 5 percent per year which is the experience of the past half dozen years. They will be 2.2 times the 1970 level if per student cost increases fall to an average of 3.5 percent per year. They would be 1.6 times the 1970 level if per student costs remain constant--an assumption that seems unreasonable in view of the labor-intensive nature of education and the nation's long-term experience with inflation.

The cost of public higher education is shared among local, state and federal governments (taxpayers) and the student and his parents. A major question for public consideration and action during the decade is how much of the cost will be shouldered by each. Local governments in Colorado contribute to the financing of higher education only in those limited situations where there are local district junior colleges.[8] While federal support of higher education has grown substantially during the 1960's its principal impact has been upon research and assistance to graduate and undergraduate students either in direct grants and loans or in subsidies of such student-funded enterprises as housing and student centers. It appears to be appropriate to assume that the principal burden of higher education costs during the 1970's will be borne by the state and by the student-plus-parents.

Debate over how much of the bill should be paid by the state taxpayer and how much by the student as a direct beneficiary has become more prominent as expenditure levels for higher education and other state functions have risen and state income levels have failed to keep pace. Throughout the nation, tuition levels in the public institutions have been rising rapidly for several years, as of course costs also have risen.[9] Proposals advanced by the Governor's Commission on Education in

[8] It appears possible that all the local district colleges will enter the state community college system during the decade; the above projections of cost include their enrollments.

[9] Nat. Assoc. of State Universities and Land-Grant Colleges, People's Colleges in Trouble [1971], pp. 13-14.

Wisconsin and by Governor John J. Gilligan in Ohio anticipate a dramatic change in funding to shift the major cost burden for higher education from the state to the student.[10] Various studies have pointed out that college students come disproportionately from higher-income families, and some have suggested that tax structures do not recover from such families their fair share of the burden of higher education.[11] The issue of how much of the cost should be borne by the taxpayer and how much by the student has been complicated by a belated recognition in higher education that large sectors of the population have not availed themselves of opportunity for higher education in the past, and major efforts have been initiated throughout the nation to provide the financial assistance to students that is necessary to make college opportunity available for these under-represented groups. In the absence of well-developed systems for authoritatively assessing financial need and for meeting it in equitable ways, the maintenance of low-cost educational opportunities is one sure way to help to assure opportunity for education beyond high school. This is particularly the case for the great middle-range group of the neither "rich" nor "poor."

In Colorado, tuition levels in the four-year colleges and in the universities have been increased in 1971-72 to provide, in general, a relationship between tuition and instructional cost of 25 percent for Colorado residents and of 100 percent for nonresidents. The action by the Legislature is understood to assume, as the Commission has recommended, that tuition levels will be maintained in these ratios as cost levels change. Since the Commission's projections of enrollments assume a continuing decline in the proportion of nonresident students--and Projection "B" assumes an immediate and progressive decline in the absolute number of nonresidents--the proportion of projected total costs that will be recovered from student charges must be expected to decline from about one-third in 1975 to about 30 percent in 1980, unless policies are adopted to, for example, increase the numbers of nonresidents or the proportion of per-student cost to be recovered through tuition charges.

In considering issues of tuition policy the Governor and Legislature will of course be in a position to take note of changing federal assistance programs for higher education and for state functions generally. It appears possible that within the next year, general federal assistance to higher education institutions will be enacted by the Congress in one form or another, and expansion of federal student assistance programs will also have an impact on state funding requirements--hopefully, though not necessarily, an impact that will provide some relief for state tax structures.

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[10] [State of Wisconsin] , A Forward Look, Final Report of the Governor's Commission on Education (Nov. 1970), especially pp. 41-48. The "Ohio Plan" has had much attention in the press but the concept is not detailed in a formal report. Though introduced in the Ohio legislature it has failed to move, apparently for lack of support.

[11] Hansen and Weisbrod, "The Distribution of Costs and Direct Benefits of Public Higher Education: The Case of California," Journal of Human Resources (Spring 1969). An analysis by Machovec of the Colorado situation, patterned on the approach used in the Hansen-Weisbrod report, suggests that Colorado taxpayers in upper income brackets do pay their fair share of higher education costs (unpublished research paper by Frank Machovec, graduate student, University of Denver, 1971).

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Consideration must also be given to changes in state tax revenues. During the 1960's, while the expenditures of higher education institutions were rising by a factor of four, overall state tax revenues were increasing by a factor of 2.27.[12] Excluding from total revenues various earmarked funds such as highway taxes and federal grants and thus looking directly at the General Fund from which come expenditures for education, General Fund revenue increased from $108,000,000 in 1960-61 to $357,200,000 in 1969-70--3.3 times.[13] Looking ahead, as we have noted, on an assumption of future enrollment growth similar to that in Projection "B," if per student costs rise an average of 5 percent per year the total costs of higher education in the 1970's will rise by a factor of 2.6. If per student costs increase by an average of 3.5 percent, the total bill in the 1970's will rise 2.2 times. This would be roughly equivalent to the actual rate of increase of overall state revenue in the 1960's. Total increase in higher education costs at either the 3.5 or the 5 percent rate would be much less than the rate of increase in General Fund revenue during the 1960's.

It is encouraging to note, moreover, that the largest state revenue sources by 1970--income and sales taxes--are also the most rapidly-growing ones, having increased by factors of 3.4 and 2.9 respectively since 1960. Producing just over 30 percent of total state revenue in 1960, they produced 40 percent of such revenue a decade later. As the proportion of revenue generated by these taxes increases, the impact of economic growth upon state revenues increases also. Given maintenance of the overall economic growth pattern of the past decade, state revenues should rise even more rapidly than they have in the past. In this respect it is notable that during 1970 per capita personal income in Colorado increased considerably more rapidly than in the U.S. as a whole, and that in the first quarter of 1971 Colorado led the nation in percentage increase in total personal income.[14]

Withal, after allowing for inflation and for increases in local, state and federal taxes, between 1960 and 1970, real income per capita in Colorado increased 20 percent.[15] This means that Coloradoans in 1970 were in a substantially better position to afford more goods and services whether from the private or the public sector of the economy.

While it is to be expected that the demands for services will continue to outstrip the funds available for state government, the combination of a slowing of the needs for expansion of the system of higher education and a continuing increase of

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[12] Based on information in Table V, Trends in State Finances, 1946-1970, to be published by Colorado Legislative Council, Fall 1971. This and other tables were made available to the Commission in advance of publication and are the basis for the discussion of state revenues in this paragraph.

[13] See Appendix B.

[14] R. R. Lucore, "The Colorado Market." Public Service Company, Market Analysis--Research Department, August 25, 1971.

[15] Table IX, Legislative Council, op. cit.

tax revenues even without a change in tax structure gives promise that the difficulty of meeting higher education's operating costs will be eased. In view of the present proportion of total state revenues that is represented by sales and income taxes and the rapidity of growth of income generated by those taxes, it appears possible that Colorado can meet demands in higher education without a major shift of cost to the student and parent. At the least, there should be time to keep under review both the question of (a) how much of what kinds and qualities of educational opportunity we want to buy, and (b) how much of the cost should be assessed the various beneficiaries, with decisions based on facts and debate concerning the various objectives to be served.

Requirements for Capital Construction

Colorado's commitment beginning in the early 1960's to expand educational opportunity in commuter colleges was an essential one to begin to fill the void in urban educational opportunities, and economically it was a desirable one from the standpoint of students, parents, and taxpayers. But it also was an ambitious one fraught with implications for the expansion of campus facilities. Southern Colorado State College and Metropolitan State College, alone, by the early 1980's will enroll as many different students as were to be found in all of the public colleges of the state in 1960! During the past year MSC, the University of Colorado Center at Colorado Springs, Community College of Denver, and Aims, Arapahoe and El Paso Community Colleges--all colleges that are essentially without permanent facilities--enrolled 22,362 students. The backlog of needed construction in many institutions throughout the state by virtue of the rapid expansion of enrollments since 1964, and in particular by the development of an impressively successful group of commuter colleges, is very large.

The Commission has made a number of estimates of the total of construction needs in the older and in the new colleges, including the Medical Center. The estimated dollar requirements have varied depending upon assumptions about numbers of students to be enrolled in various institutions, rate of increase in construction costs, timing of construction, and other factors.

In November 1968, following completion of the first comprehensive inventory and analysis of available higher education space undertaken in Colorado, on the basis of the then-current projections of enrollments and of space planning standards developed in reference to criteria from a number of states in addition to Colorado, the Commission documented need for construction or renovation and associated costs of land, professional fees, site and utility costs and equipment, totaling nearly $333 million for the ten-year period to 1979. An updating of these estimates in June 1970 indicated a need for $341 millions in capital construction funds during the decade.

The initiation of discussion of enrollment limits in the preliminary edition of this report in December 1970 followed by the imposition of controls on size at several institutions in the appropriation act for 1971-72 have led to a significant scaling down in expected rate of enrollment growth at the largest institutions. As compared to projections used in the 1970 construction estimates, current CCHE estimates (per Table 8, page 23) of numbers of day full-time equivalent students estimated to be

enrolled at the University of Colo
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Primarily because of the ne
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Projecting these estimates a
rate of 10 percent per year reveals
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than $20 million in 1970-71. Dur

tructure gives promise that the difficulty
s will be eased. In view of the present
resented by sales and income taxes and
by those taxes, it appears possible that
tion without a major shift of cost to the
uld be time to keep under review both
and qualities of educational opportunity
cost should be assessed the various bene-
debate concerning the various objectives

pital Construction

the early 1960's to expand educational
ential one to begin to fill the void in
ically it was a desirable one from the
rs. But it also was an ambitious one
f campus facilities. Southern Colorado
ge, alone, by the early 1980's will enroll
nd in all of the public colleges of the
the University of Colorado Center at
nver, and Aims, Arapahoe and El Paso
ssentially without permanent facilities--
eeded construction in many institutions
expansion of enrollments since 1964, and
essively successful group of commuter col-

f estimates of the total of construction
including the Medical Center. The es-
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s, rate of increase in construction costs,

tion of the first comprehensive inventory
pace undertaken in Colorado, on the basis
s and of space planning standards devel-
of states in addition to Colorado, the
or renovation and associated costs of
s and equipment, totaling nearly $333
n updating of these estimates in June
capital construction funds during the

ment limits in the preliminary edition of
e imposition of controls on size at sev-
1971-72 have led to a significant scaling
at the largest institutions. As compared
estimates, current CCHE estimates (per
me equivalent students estimated to be

enrolled at the University of Colorado-Boulder, Colorado State University, the University of Northern Colorado and Metropolitan State College in 1980 have been reduced more than 13,000. While it is quite likely that many of the students who are unable to enter these university institutions and Metropolitan State College will enroll in other colleges in the state, the Table 8 figures do not redistribute to other institutions the numbers by which projected enrollments at these four institutions have been reduced other than to a limited extent at Colorado Springs. An estimate of space needs based upon the current CCHE enrollment projections is therefore as conservative as the enrollment projection itself. It may be argued that students excluded from some institutions by enrollment limits will go elsewhere and that space must be planned for them. However it seems to the Commission appropriate to assume that some overcrowding will be possible in the future as it has been in the past and present, and that it is sound procedure to project space needs according to the low revised figure while watching actual enrollment experience and keeping the projections under review.

A summary of the 1971 revised estimate of construction needs based on the current enrollment estimates appears in Appendix C. As compared to a total estimated requirement of $341,576,000 in the projection of 1970, by virtue of the large reduction in numbers of students now projected for 1980, the calculation of funds required through 1980-81 is $290,142,738. If the 13,000-odd students removed from the projection because of limits at CU, CSU, UNC, and MSC do in fact show up elsewhere as they are likely to do, then these students will expand space needs in such institutions. In that case the earlier projection of dollar requirements--adjusted for cost changes--will turn out to have been correct.

Primarily because of the new Denver Area, Colorado Springs and Greeley institutions and their major implications for long-term construction needs but also because of backlogs in construction at several other institutions, the state faces serious problems in funding for the next several years. This problem has been intensified by the limited scope of construction provided for in 1971-72.

The intense capital funding problems of the next six or eight years will abate materially as permanent facilities are completed for the new institutions. This circumstance is true in part because of the slowing down of enrollment growth that will occur in the later years of the decade. Relief can also come from a continuing growth in state revenues which, combined with overcoming of the current backlog and a flattening of the curve of enrollment growth, can make it feasible again to handle capital construction from current revenues. The Table in Appendix B traces the growth of General Fund revenue since 1960-61. It is to be noted that in no year since 1962-63 (when revenue fell reflecting a tax reduction) has revenue growth been less than 8 percent and that otherwise it has been at least 11 percent, ranging upward to 32 percent. Since 1965 when the last significant change in the tax structure occurred (with an increase in the sales tax), the impressive near-doubling in revenues mirrors the growth in the state's economy. It is noteworthy also that whereas a 15 percent annual increase in 1961-62 represented a revenue gain of $16.5 million, a 15 percent increase in 1969-70 reflected a gain of $47.8 million!

Projecting these estimates at what would appear to be a conservative growth rate of 10 percent per year reveals that a 5 percent fraction of General Fund revenue will produce nearly $47 million in the closing year of the decade versus less than $20 million in 1970-71. During the decade it would produce more than

$297 million. If the backlog of higher education construction needs has been met in the intervening years, a 5 percent fraction of General Fund revenue should exceed the amounts that will be needed in 1980, making possible without difficulty the maintenance of a pay-as-you-go policy.

In the absence of owned facilities, rental costs in the new urban institutions approximate $2.5 million in 1971-72 and are increasing rapidly as enrollments expand and as construction and maintenance and therefore rental costs continue to rise. By mid-decade, in the absence of new permanent facilities for these institutions they will be approximately $4.4 million. Construction costs also are increasing very rapidly. While we may hope that cost increases will decline from the nearly 1 percent per month rate of the past year, long-term experience indicates an increase on the average of 7 percent per year. At that rate of increase the identical building that can be contracted for $1 million in 1971 will cost $2,054,507 in 1980.

Until recently, construction funding levels feasible on a pay-as-you-go basis were adequate to provide for needed construction at the older institutions and to initiate planning for facilities at the newer ones. As of 1970 it was no longer possible to keep pace. Because this circumstance has been just over the horizon, the Commission has been proposing for several years the authorization of a program under which funds might be borrowed to accelerate provision of the long-needed facilities, with repayment of the borrowings to occur a few years hence when--if the backlog has been overcome--needs are modest and revenues are much higher. Such a program would offset both rising inflation and increasing rental costs and result in savings of millions of dollars. The Commission and institutions of higher education are not wedded to any one means of dealing with the situation. However either taxes must be raised to deal with long-pending construction needs or borrowing is essential.

The alternatives we face in order to resolve the present dilemma are to provide for a new and significantly larger level of construction during the next half-dozen or so years, or to restrict enrollments not only in the older residential institutions where restrictions have already been instituted but in the new urban commuter colleges--now, as the state has intended, the fastest-growing institutions in Colorado.

Appendix A

Expenditures Over 10 Years in Colorado Public Colleges and Universities, (1960-61 and 1969-70)

	1960-61	1969-70 (est.)	1969-70 as Percent of 1960-61
FOUR-YEAR INSTITUTIONS			
Univ. of Colo.-Boulder	$9,889,044	$27,877,942	281.9
-Centers and Extension	1,407,914	5,539,519	393.5
Colorado State University	4,920,572	21,639,120	439.7
Colorado School of Mines	2,314,016	4,351,459	188.0
Fort Lewis College	455,546	2,294,857	503.8
Adams State College	1,026,646	3,275,591	318.2
University of Northern Colorado	3,204,089	10,350,000	323.0
Metropolitan State College	--	4,822,400	--
Southern Colorado State College	--	6,241,267	--
Western State College	1,186,658	3,550,163	299.2
ALL 4-YR. INSTITUTIONS			
State funds	15,818,561	58,118,035	367.4
Cash funds	8,585,924	31,824,283	370.7
Total expenditures	24,404,485	89,942,318	368.5
FTE students	30,743	71,285	231.9
Cost per FTE student	794	1,262	158.9
TWO-YEAR INSTITUTIONS*			
State funds	1,087,493	12,209,229	1,122.7
Other funds	1,355,492	7,413,039	546.9
Total expenditures	2,442,985	19,622,268	803.2
Total FTE students	3,570	**	--
Cost per FTE student	684	**	--
TOTAL 2-YR. AND 4-YR. INSTITUTIONS			
State funds	16,906,054	70,327,264	416.0
Other funds	9,941,416	39,237,322	394.7
Total expenditures	26,847,470	109,564,586	408.1

Colorado General Fund

YEAR
1960-61
1961-62
1962-63
1963-64
1964-65
1965-66
1966-67
1967-68
1968-69
1969-70
1970-71
1971-72
1972-73
1973-74
1974-75
1975-76
1976-77
1977-78
1978-79
1979-80

Source for 1960-61 Accounts and Cont

*Data for 1960-61 derived from Colorado State Department of Education, Community Junior Colleges, Enrollments, Staffs, Finances, 1958-59 through 1961-62 (1963), pp. 21,30.

**Information is lacking to compute figure comparable to 1960-61.

Source: Analysis of Operating Expenditures, 1963-64 to 1969-70, Colorado Public Colleges and Universities, CCHE (Feb. 1970), and earlier summaries in this series.

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do Public Colleges and Universities,
d 1969-70)

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26,847,470	109,564,586	408.1

ate Depar.nent of Education, Community
ces, 1958-59 through 1961-62 (1963),

comparable to 1960-61.

, 1963-64 to 1969-70, Colorado Public
Feb. 1970), and earlier summaries in

Appendix B
Colorado General Fund Revenue, 1960-61 Through 1970-71, with Projections Through 1979-80
(Dollar amounts are in thousands)

YEAR	REVENUE (Net)	% INCREASE	5% of REVENUE
1960-61	$108,000		$ 5,400
1961-62	124,500	15	6,225
1962-63	119,700	(4)	5,985
1963-64	133,400	11	6,670
1964-65	167,800	26	8,390
1965-66	221,600	32	11,080
1966-67	239,900	8	11,995
1967-68	267,400	11	13,370
1968-69	309,400	16	15,470
1969-70	357,200	15	17,860
1970-71	397,700	11	19,883
	PROJECTIONS		
1971-72	$437,470	10	$21,874
1972-73	481,217	10	24,061
1973-74	529,338	10	26,467
1974-75	582,272	10	29,114
1975-76	640,499	10	32,025
1976-77	704,549	10	35,227
1977-78	775,004	10	38,750
1978-79	852,505	10	42,625
1979-80	937,755	10	46,888

Source for 1960-61 through 1970-71 revenue information: Colorado Division of Accounts and Control

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Appendix C
Colorado Public Higher Education Institutions
Summary of Projected Space Needs and Costs, to 1980-81*

	Assignable Sq. Feet	Efficiency Factor
Summary of institutional requirements as projected, by space category:		
Classroom and Service	512,360	68
Teaching Laboratories and Service	792,366	70
Physical Education Facilities and Service	376,568	80
Other Teaching Facilities and Service	61,794	68
Teaching Faculty Offices and Service	553,797	68
Other Instructional Space	267,636	68
Library Space	443,398	75
Administrative and General Office and Service Space	202,456	68
Physical Plant Service Space	361,976	80
Subtotal	3,572,351	71.4
Organized Activities, Research, Extension and Public Service and General Activities for which institution-by-institution projections were not made (estimated at 20 percent of the total--its ratio over the past several years)	714,470	70
Total Educational and General Space (exclusive of Medical Center)	4,286,821	71.2
Architects fees, Movable Equipment, and Contingencies (25% of cost of structure and built-in equipment)		
Site Work, Utilities, and Landscaping		
Renovations and Alterations		
Land Acquisition		
Medical Center Facilities (as set forth in Master Plan, adjusted for funding since adoption of plan)		
Total requirement		

*Cost figures are based on current costs of facilities projected to 1976 on the basis of 7 percent per year cost increases--the costs in 1976 are used because that would be the mid-point of the period over which these projections are made. This costi scale construction is undertaken for the new institutions so that the total requirements can be spaced out in approximately eq

Appendix C
Colorado Public Higher Education Institutions
Summary of Projected Space Needs and Costs, to 1980-81*

	Assignable Sq. Feet	Efficiency Factor	Outside Gross Sq. Feet	Cost per G.S.F.	Estimated Cost, Structure and Built-in Equipment
s projected, by space category:					
	512,360	66	753,471	$32.10	$ 24,186,419
	792,366	70	1,131,951	31.03	35,124,440
ervice	376,568	80	470,710	28.19	13,269,315
ice	61,794	68	90,874	31.51	2,863,440
ce	553,797	68	814,407	32.10	26,142,465
	267,636	68	393,582	32.10	12,633,982
	443,398	75	591,197	29.80	17,617,671
and Service Space	202,456	68	297,729	32.74	9,747,647
	361,976	80	452,470	15.73	7,117,353
	3,572,351	71.4	4,996,391	29.77	148,702,732
ion and Public Service and					
ution-by-institution projections					
rcent of the total--its ratio					
	714,470	70	1,020,671	32.10	32,763,539
exclusive of Medical Center)	4,286,821	71.2	6,017,062	30.16	181,466,271
nd Contingencies (25% of cost of structure and built-in equipment)					45,359,067
					10,000,000
					10,000,000
					8,600,000
in Master Plan, adjusted for funding since adoption of plan)					34,717,400
					$290,142,738

s of facilities projected to 1976 on the basis of 7 percent per year cost increases--the average experience over many years. Estimated would be the mid-point of the period over which these projections are made. This costing will be appropriate only if immediate large- ne new institutions so that the total requirements can be spaced out in approximately equal amounts through the period to 1980-81.

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THE COLORADO COMMISSION ON HIGHER EDUCATION WAS ESTABLISHED BY THE GENERAL ASSEMBLY IN 1965. A COORDINATING RATHER THAN A GOVERNING BOARD, IT WORKS IN COOPERATION WITH BOARDS OF REGENTS AND TRUSTEES WHICH HAVE DIRECT RESPONSIBILITY FOR OPERATING THE TWO-YEAR AND FOUR-YEAR PUBLIC COLLEGES AND UNIVERSITIES IN THE STATE. THE COMMISSION IS CHARGED WITH DEVELOPING LONG-RANGE PLANS FOR AN EVOLVING STATE PROGRAM OF HIGHER EDUCATION; WITH THE REVIEW OF OPERATING AND CAPITAL BUDGET REQUESTS OF THE COLLEGES AND UNIVERSITIES AND RECOMMENDATION TO THE GOVERNOR AND JOINT BUDGET COMMITTEE OF THE GENERAL ASSEMBLY INCLUDING PRIORITIES FOR FUNDING; WITH REVIEW AND DECISION RELATING TO PROPOSED NEW DEGREE PROGRAMS IN ANY OF THE INSTITUTIONS OF HIGHER EDUCATION; WITH RECOMMENDATION TO THE GOVERNOR AND JOINT BUDGET COMMITTEE ON THE ESTABLISHMENT OF STATE-SUPPORTED INSTITUTIONS OF HIGHER EDUCATION; AND WITH STUDY AND RECOMMENDATION IN OTHER AREAS OF PROGRAMMING AT THE POST-SECONDARY LEVEL. THE COMMISSION SERVES AS STATE AGENCY FOR ADMINISTRATION OF TITLE I OF THE HIGHER EDUCATION FACILITIES ACT OF 1963 AND SEVERAL TITLES OF THE HIGHER EDUCATION ACT OF 1965.